FOR CONTRACT NO.: 06-0H9404

INFORMATION HANDOUT

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

BOARD ORDER NO. 2003-0017

NPDES PERMIT NO. CAS000003

PERMITS

UNITED STATES DEPRTMENT OF INTERIOR

FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION

UNITED STATES ARMY CORPS OF ENGINEERS

NON-REPORTING NATIONWIDE 404 PERMIT

ROUTE: 168

Nationwide Permit Summary

U S Army Corps of Engineers
Sacramento District

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4)

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

☐ 1. **Navigation.**

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ 2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

☐ 3 **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ 5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

☐ 6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

☐ 7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ 8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable.

☐ 9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ 11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ 12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ 13. **Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ 14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

☐ 15. **Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 16. **Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 17. **Endangered Species.**

☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

☐ 18. **Historic Properties.**

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ **19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **20 Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

☐ (h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ **22. Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ **23. Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ **24. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ **25. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

☐ **26. Compliance Certification.** Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

☐ (b) A statement that any required mitigation was completed in accordance with the permit conditions; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **27. Pre-Construction Notification.**

☐ (a) **Timing.**. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

☐ (a) **28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c. Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing.

2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.

7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.

10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

IV. Utah Only

1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

V. Colorado Only

1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.

a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]

c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in

building structures is not authorized by this nationwide permit.

(4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (http://soils.usda.gov/technical/classification/taxonomy).

j. Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.

b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa.usace.army.mil/reg/)

c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website: http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm

C. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

D. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes. A channelized stream remains a water of the United States.

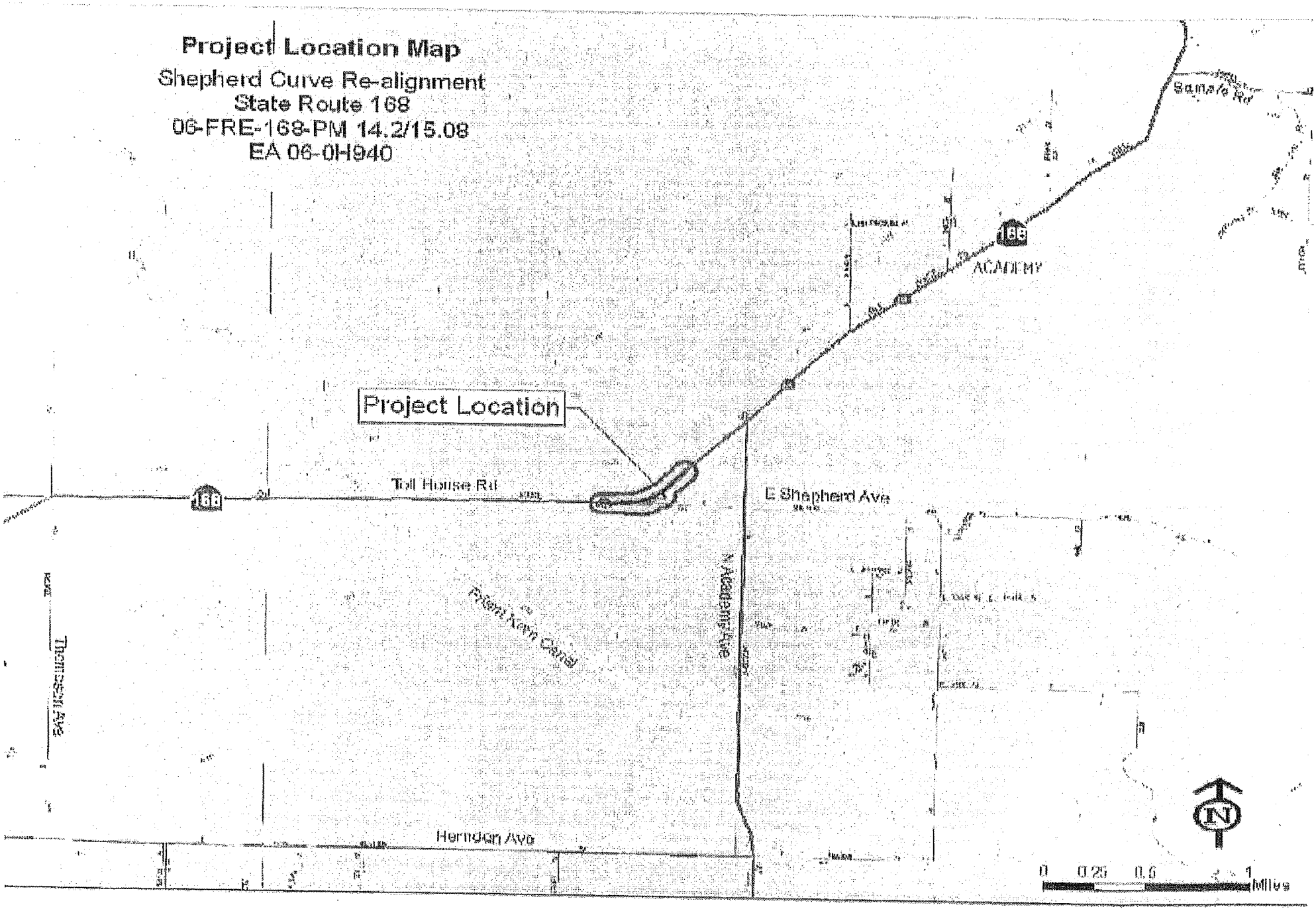
Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

igure 2: Project Location Map



epherd Curve Re-alignment Project

Central Valley Regional Water Quality Control Board

4 April 2012

Virginia Strohl, Central Region Biology Branch Chief
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

CLEAN WATER ACT § 401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE SHEPHERD AVENUE CURVE RE-ALIGNMENT PROJECT, WDID#5C10CR00020, FRESNO COUNTY

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This Certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to § 13330 of the California Water Code and § 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This Certification is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR § 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR § 3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the Shepherd Avenue Curve Re-alignment Project (Project) described in the attached "Project Information Sheet." This Certification is no longer valid if the Project (as summarized in the "Project Information Sheet" and described in the water quality certification application) is modified, or coverage under the project permit issued by the U.S. Army Corps of Engineers pursuant to § 404 of the Clean Water Act has expired. The California Department of Transportation (Discharger) shall notify the Central Valley Regional Water Quality Control Board (Central Valley Water Board) in writing within seven days of Project completion.

5. All reports, notices, or other documents required by this Certification or requested by the Central Valley Water Board shall be signed by a person described below or by a duly authorized representative of that person.

   a. For a corporation: by a responsible corporate officer such as (1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; (2) any other person who performs similar policy or decision-making functions for the corporation; or (3) the manager of one or more manufacturing, production, or operating facilities if

authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. For a partnership or sole proprietorship: by a general partner or the proprietor.

c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official.

6. Any person signing a document under Standard Condition No. 5 shall make the following certification, whether written or implied:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:

In addition to the six standard conditions, the Discharger shall satisfy the following:

1. The Discharger shall notify the Central Valley Water Board in writing seven days prior to beginning any in-water activities.

2. Except for activities permitted by the U.S. Army Corps of Engineers under § 404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. All areas disturbed by Project activities shall be protected from washout or erosion.

4. The Discharger shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed Project shall be adequately informed and trained regarding the conditions of this Certification.

5. An effective combination of erosion and sediment control Best Management Practices shall be implemented and adequately working during all phases of construction.

6. All temporarily affected areas shall be restored to pre-construction contours and conditions upon completion of construction activities.

7. The Discharger shall perform surface water sampling: 1) when performing any in-water work; 2) in the event that Project activities result in any materials reaching surface waters or; 3) when any activities result in the creation of a visible plume in surface waters. The following monitoring shall be conducted immediately upstream out of the influence of the Project and approximately 300 feet downstream of the active work area. Sampling results shall be submitted to this office by the first day of the second month following sampling. The sampling frequency and monitoring

locations may be modified for certain projects with written permission from the Central Valley Water Board Executive Officer.

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in-water work
Settleable Material	ml/L	Grab	Same as above
pH	Standard units	Grab	Daily during concrete activity
Visible construction related pollutants	Observation	Visible Inspections	Continuous throughout the construction period

8. Activities shall not cause:

   (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases exceeding 1 NTU;

   (b) where natural turbidity is between 5 and 50 NTUs, increases exceeding 20 percent;

   (c) where natural turbidity is between 50 and 100 NTUs, increases exceeding 10 NTUs;

   (d) where natural turbidity is greater than 100 NTUs, increases exceeding 10 percent.

   In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be used with prior permission of the Central Valley Water Board Executive Officer.

9. Activities shall not cause settleable material to exceed 0.1 ml/L in surface waters as measured in surface waters downstream from the Project.

10. Activities shall not cause the pH to be depressed below 6.5 nor raised above 8.3.

11. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or downstream. The Discharger shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

12. The Discharger shall notify the Central Valley Water Board immediately if any of the above conditions are violated, along with a description of measures it is taking to remedy the violation.

13. The Discharger shall comply with all California Department of Fish and Game Code § 1600 requirements for the Project.

14. The Discharger must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board for any project disturbing an area of one acre or greater.

15. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and § 401(d) of the federal Clean Water Act. The applicability of any State law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with this Certification.

16. If the Discharger or a duly authorized representative of the Discharger fails or refuses to furnish technical or monitoring reports, as required under this Certification, or falsifies any information provided in the monitoring reports, the Discharger will be subject to civil liability, for each day of violation, or criminal liability.

17. In response to a suspected violation of any condition of this Certification, the Central Valley Water Board may require the Discharger to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from them.

18. The Discharger shall allow staff of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the Project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Certification and determining the ecological success of the Project.

CENTRAL VALLEY WATER BOARD CONTACT PERSON:

Debra Mahnke, Water Resource Control Engineer
1685 E Street
Fresno, CA 93706
(559) 445-6281
dmahnke@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that the proposed discharge from the California Department of Transportation Shepherd Avenue Curve Re-alignment Project, WDID# 5C10CR00020, will comply with the applicable provisions of § 301 ("Effluent Limitations"), § 302 ("Water Quality Related Effluent Limitations"), § 303 ("Water Quality Standards and Implementation Plans"), § 306 ("National Standards of Performance"), and § 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification."

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited to and all proposed mitigation being completed in strict compliance with the Discharger's project description, the attached "Project Information Sheet," and the Discharger's water quality certification application; and (b) compliance with all applicable requirements of the Central Valley Water Board's *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004.

Any person aggrieved by this action may petition the State Water Board to review the action in accordance with California Water Code § 13320 and California Code of Regulations, title 23, § 2050

and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this action, except that if the thirtieth day following the date of this action falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

for Pamela C. Creedon
Executive Officer

Enclosure: Water Quality Order No. 2003-0017 DWQ
Attachment: Project Information Sheet

cc: Jason Brush, Supervisor, Wetlands Regulatory Office, U.S. Environmental Protection Agency, Region 9, San Francisco (email)
Paul Maniccia, Chief, Sacramento South Branch, Regulatory Unit, Department of the Army, Corps of Engineers, Sacramento
Bill Orme, Water Quality Certification Unit Chief, Division of Water Quality, State Water Resources Control Board, Sacramento (email)
Jeffrey Single, Regional Manager, San Joaquin Valley-Southern Sierra Region, California Department of Fish and Game, Fresno

PROJECT INFORMATION SHEET

Application Date: 10 January 2012

Applicant: California Department of Transportation

Applicant Representative: Virginia Strohl, Central Region Biology Branch Chief

Project Name: Shepherd Curve Re-alignment Project

Application Number: WDID# 5C10CR00020

Type of Project: Road reconstruction

Project Location: Sections 21, 22, 27, and 28, Township 12 South, Range 22 East, MDB&M. Latitude: 36.866783 and Longitude: -119.566201

Project Duration: Proposed schedule is August 2012 through November 2012.. The estimated Project duration is 55 working days.

County: Fresno

Receiving Water: Unnamed ephemeral vernal pools and swales, and drainage channel, tributary to Redbank Slough, Tulare Lake Hydrologic Basin, South Valley Floor Hydrologic Unit #551.40, Academy HA

Water Body Type: Ephemeral vernal pools and swales, drainage channel

Designated Beneficial Uses: The *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004, designates beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the Project include: Agricultural Supply; Industrial Service Supply, Industrial Process Supply, Groundwater Recharge, Water Contact Recreation; Non-Contact Water Recreation; Warm Freshwater Habitat; Rare, Threatened, or Endangered Species; and Wildlife Habitat.

Project Description: The Project will remove, realign, and decrease the angle of the existing non-standard curve near the intersection of Shepherd Avenue and State Route 168 to improve the level of safety and reduce the number of accidents and collisions.

Preliminary Water Quality Concerns: Potential inadvertent discharge of asphalt concrete or cement concrete waste, hazardous material spills or leaks, etc.

Proposed Mitigation to Address Concerns: To avoid/minimize impacts to the wetland and waters in the Project area, temporary fence will be placed at the Project limits. Soil binder, fiber rolls, and a designated construction entrance to unpaved areas will be used to minimize potential for sediment discharge.

Fill/Excavation Area: The Project will impact five ephemeral pools, four ephemeral swales, and one drainage ditch, resulting in permanent impact to 0.093 acres of jurisdictional wetlands and 0.009 acres (67 linear feet) of un-vegetated streambed. The Project includes permanent fill of 643 cubic yards of native soil into the wetlands, swales, and ditch.

Dredge Volume: None

U.S. Army Corps of Engineers Permit Number: Nationwide Permit #14, SPK-2011-00816

Department of Fish and Game Streambed Alteration Agreement: The Project does not meet the criteria for requiring a Department of Fish and Game Streambed Alteration Agreement.

Status of CEQA Compliance: The California Department of Transportation filed a Mitigated Negative Declaration and approved a Notice of Determination on 29 June 2010 (SCH# 2009061047).

As a Responsible Agency under California Environmental Quality Act (CEQA), the Central Valley Water Board reviewed the Mitigated Negative Declaration and found that impacts to water quality were adequately addressed. Mitigation for impacts to water quality is discussed in the "Proposed Mitigation to Address Concerns" section above and in the "Compensatory Mitigation" section below.

Compensatory Mitigation: To compensate for the loss of jurisdictional wetlands, the Discharger will pay in-lieu fees of $13,650 to National Fish and Wildlife Foundation for 0.093 acres of wetlands. The drainage channel will be recreated at the completion of the Project.

Application Fee Provided: Total fees of $1,350.00 have been submitted as required by 23 CCR § 3833(b)(3)(A) and by 23 CCR § 2200(e).

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY ORDER NO. 2003 - 0017 - DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR DREDGED OR FILL DISCHARGES THAT HAVE RECEIVED STATE WATER QUALITY CERTIFICATION (GENERAL WDRs)

The State Water Resources Control Board (SWRCB) finds that:

1. Discharges eligible for coverage under these General WDRs are discharges of dredged or fill material that have received State Water Quality Certification (Certification) pursuant to federal Clean Water Act (CWA) section 401.

2. Discharges of dredged or fill material are commonly associated with port development, stream channelization, utility crossing land development, transportation water resource, and flood control projects. Other activities, such as land clearing, may also involve discharges of dredged or fill materials (e.g., soil) into waters of the United States.

3. CWA section 404 establishes a permit program under which the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into waters of the United States.

4. CWA section 401 requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to a water of the United States (including permits under section 404) to obtain Certification that the proposed activity will comply with State water quality standards. In California, Certifications are issued by the Regional Water Quality Control Boards (RWQCB) or for multi-Region discharges, the SWRCB, in accordance with the requirements of California Code of Regulations (CCR) section 3830 et seq. The SWRCB's water quality regulations do not authorize the SWRCB or RWQCBs to waive certification, and therefore, these General WDRs do not apply to any discharge authorized by federal license or permit that was issued based on a determination by the issuing agency that certification has been waived. Certifications are issued by the RWQCB or SWRCB before the ACOE may issue CWA section 404 permits. Any conditions set forth in a Certification become conditions of the federal permit or license if and when it is ultimately issued.

5. Article 4, of Chapter 4 of Division 7 of the California Water Code (CWC), commencing with section 13260(a), requires that any person discharging or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the State,[1] file a report of waste discharge (ROWD). Pursuant to Article 4, the RWQCBs are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to CWC section 13269. These General WDRs fulfill the requirements of Article 4 for proposed dredge or fill discharges to waters of the United States that are regulated under the State's CWA section 401 authority.

[1] "Waters of the State" as defined in CWC Section 13050(e)

6. These General WDRs require compliance with all conditions of Certification orders to ensure that water quality standards are met.

7. The U.S. Supreme Court decision of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (the *SWANCC* decision) called into question the extent to which certain "isolated" waters are subject to federal jurisdiction. The SWRCB believes that a Certification is a valid and enforceable order of the SWRCB or RWQCBs irrespective of whether the water body in question is subsequently determined not to be federally jurisdictional. Nonetheless, it is the intent of the SWRCB that all Certification conditions be incorporated into these General WDRs and enforceable hereunder even if the federal permit is subsequently deemed invalid because the water is not deemed subject to federal jurisdiction.

8. The beneficial uses for the waters of the State include, but are not limited to, domestic and municipal supply, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources.

9. Projects covered by these General WDRs shall be assessed a fee pursuant to Title 23, CCR section 3833.

10. These General WDRs are exempt from the California Environmental Quality Act (CEQA) because (a) they are not a "project" within the meaning of CEQA, since a "project" results in a direct or indirect physical change in the environment (Title 14, CCR section 15378); and (b) the term "project" does not mean each separate governmental approval (Title 14, CCR section 15378(c)). These WDRs do not authorize any specific project. They recognize that dredge and fill discharges that need a federal license or permit must be regulated under CWA section 401 Certification, pursuant to CWA section 401 and Title 23, CCR section 3855, et seq. Certification and issuance of waste discharge requirements are overlapping regulatory processes, which are both administered by the SWRCB and RWQCBs. Each project subject to Certification requires independent compliance with CEQA and is regulated through the Certification process in the context of its specific characteristics. Any effects on the environment will therefore be as a result of the certification process, not from these General WDRs. (Title 14, CCR section 15061(b)(3)).

11. Potential dischargers and other known interested parties have been notified of the intent to adopt these General WDRs by public hearing notice.

12. All comments pertaining to the proposed discharges have been heard and considered at the November 4, 2003 SWRCB Workshop Session.

13. The RWQCBs retain discretion to impose individual or General WDRs or waivers of WDRs in lieu of these General WDRs whenever they deem it appropriate. Furthermore, these General WDRs are not intended to supersede any existing WDRs or waivers of WDRs issued by a RWQCB.

IT IS HEREBY ORDERED that WDRs are issued to all persons proposing to discharge dredged or fill material to waters of the United States where such discharge is also subject to the water quality certification requirements of CWA section 401 of the federal Clean Water Act (Title 33 United States Code section 1341), and such certification has been issued by the applicable RWQCB or the SWRCB, unless the applicable RWQCB notifies the applicant that its discharge will be regulated through WDRs or waivers of WDRs issued by the RWQCB. In order to meet the provisions contained in Division 7 of CWC and regulations adopted thereunder, dischargers shall comply with the following:

1. Dischargers shall implement all the terms and conditions of the applicable CWA section 401 Certification issued for the discharge. This provision shall apply irrespective of whether the federal license or permit for which the Certification was obtained is subsequently deemed invalid because the water body subject to the discharge has been deemed outside of federal jurisdiction.

2. Dischargers are prohibited from discharging dredged of fill material to waters of the United States without first obtaining Certification from the applicable RWQCB or SWRCB.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 19, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Gary M. Carlton
Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.

Debbie Irvin
Clerk to the Board

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO:
81420-2010-F-0043-2

25 June 2010

Mr. Zachary Parker
Biology Branch Chief
California Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
Fresno, California 93726

Subject: Biological Opinion for the State Route 168 Shepherd Curve Realignment Project, Fresno, California (Caltrans EA 06-0H9400, 06-FRE-PM-14.2/15.08)

Dear Mr. Parker:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request for formal consultation on the State Route 168 Shepherd Curve Realignment Project (project) in Fresno County, California. Your letter requesting consultation, dated October 13, 2009, was received in this office on October 16, 2009. At issue are the effects of this proposed project on the following federally-listed species: the threatened Central Valley Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*; CTS); the threatened vernal pool fairy shrimp (*Branchinecta lynchi*; VPFS); the threatened fleshy (=succulent) owl's clover (*Castilleja campestris ssp. succulenta*; FOC) critical habitat; and the endangered San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF). This document has been prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The findings and recommendations of this biological opinion (B.O.) are based on: (1) the October 13, 2009 Request to Initiate Formal Consultation letter; (2) the *Biological Assessment for the Shepherd Curve Re-alignment Project, On State Route 168 at the East Shepherd Avenue intersection in Fresno County, approximately 17 miles northeast of Fresno, California*, dated September 2009 (B.A.), and prepared by Caltrans, District 6; (3) electronic mail (e-mail) and telephone exchanges between Ms. Schofield and Caltrans from November 2009 to May 2010; (4) two meetings between Caltrans and the Service on November 19, 2009 and February 26, 2010; (5) Caltrans' response letter to the Service's request for additional information, dated

February 25, 2010, and received by the Service on March 5, 2010; and (6) other information available to the Service.

Caltrans has made the determination that the project may affect, but is not likely to adversely affect FOC critical habitat, in part, attributed to the avoidance and minimization measures Caltrans proposes to implement. Critical habitat for the FOC was originally designated in the Federal Register on August 6, 2003, revised on August 11, 2005, and published again according to unit designations on February 10, 2006. The project site is located within designated critical habitat unit 5A and therefore project activities will directly affect a portion of the critical habitat unit. However, the inclusion of contract specifications, special provisions, and Best Management Practices (BMPs) in the construction contract will help minimize effects to the habitat. Additionally, the approximately 13 acre (ac) project site and the anticipated direct impacts to 0.32 ac and indirect impacts to 0.71 ac of FOC habitat, are exceedingly minimal when compared with the 14,081 ac total expanse of the 5A-B designated critical habitat unit (71 FR 7117). The Service therefore considers that the project is unlikely to adversely affect the critical habitat given the unit as a whole.

Caltrans has also made the determination that the project may affect, but is not likely to adversely affect the SJKF, given the conservation measures it proposes to incorporate into project design in order to minimize the potential for effects to the species.

1. Pre-construction surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance or any project activity likely to impact the SJKF. Exclusion zones will be set-up in accordance with Service recommendations:

    a. Potential dens → 50 foot (ft) radius
    b. Known den → 100 ft radius
    c. Atypical den → 50 ft radius
    d. Natal/pupping den → contact the Service for guidance

2. If a den has to be removed, it must be reported to the Service, appropriately monitored and excavated by a Service-approved biologist, and replaced.

3. Project-related vehicles will observe a 20 mile-per-hour speed limit in all project areas, except when on County roads, and on State and Federal highways. Off-road traffic outside of designated project areas will be prohibited.

4. As the SJKF is most active at night, nighttime construction will be avoided, unless the construction area is appropriately fenced to exclude the SJKF and has been determined to be uninhabited prior to the start of construction.

5. To prevent inadvertent entrapment of the SJKF during the construction phase of the project, all excavated, steep-walled holes/trenches greater than two feet deep will be covered at the end of each working day or provided with escape ramps constructed of earth fill or wooden planks. Before these holes/trenches are filled, they will be inspected for trapped animals. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on-site will also be inspected before being buried, capped, or used or moved in any manner.

6. All food-related trash items will be disposed of in closed containers and removed from the project site.

7. No firearms will be allowed on-site, excepting those of law enforcement personnel.

8. No pets will be permitted on-site.

After reviewing the 2009 B.A., Caltrans' response letter, and other information sources, the Service concurs that the proposed project is not likely to adversely affect FOC critical habitat or the SJKF. This concludes the Service's consideration of the project's impacts to FOC critical habitat and the SJKF. If substantial changes are made to the project or if new information is presented to the Service, this determination may be re-evaluated and consultation reinitiated. The remainder of this B.O. will address the concerns of the proposed project upon the CTS and VPFS.

Consultation History

October 16, 2009. The Service received a letter from Caltrans requesting initiation of formal consultation for the CTS and VPFS and providing 'not likely to adversely affect' determinations for the SJKF and FOC critical habitat. The B.A. was included in the initiation package.

November 19, 2009. Jen Schofield (Service) e-mailed Laura Peterson-Diaz (California Department of Fish and Game (CDFG)) to inquire whether the CDFG had specific survey protocols for vernal pool plants and whether species expert, Ellen Cypher (CDFG), had specific input regarding protocols. Ms. Peterson-Diaz replied via e-mail, forwarding responses from both Ms. Cypher and Linda Connelly (CDFG) who recommended using both the California Natural Plan Society's (CNPS) guidelines and Ms. Cypher's 2002 *General Guidelines for Rare Plant Surveys*. Also, they recommended using a reference site and known populations to determine appropriate survey times.

November 19, 2009. At the informal winter quarterly meeting, attended by Zachary Parker and Christine Cox (both of Caltrans), and Kenneth Sanchez (Service) and Ms. Schofield, they discussed the project's status. Ms. Schofield had some concerns regarding 'no effect' and 'likely to adversely affect' contradictions in determinations stated in the B.A. for several of the plant species. Ms. Schofield explained to Caltrans that four plant species might need to be included in formal consultation. Mr. Sanchez explained how the Service handled 'no effect' calls and

emphasized that Ms. Schofield and Caltrans would need to discuss these species further on an informal basis to come to a conclusion.

November 20, 2009. The Service sent a 30-day letter to Caltrans in response to the B.A. with a request for further information, comments, and recommendations.

December 14, 2009. A conference call was held with Mr. Parker, Virginia Strohl, Tamra Nunes, Dena Gonzalez, and Lori Bono (all of Caltrans). Ms. Strohl and Ms. Bono wished to discuss several matters broached in the Service's 30-day letter in order to clarify items and to help them write their response. The use of 'indirect/temporary' terminology was discussed - there was some confusion attributed to how each agency defined the terms. Ms. Strohl explained that Caltrans was concerned with impacting the topography and drainage in the project area through 'indirect' effects. Ms. Schofield explained that based on the description in the B.A., the term's usage appeared more consistent with 'temporary' effects and since the Service generally does not suggest compensation for indirect effects, this lent to the uncertainty. Ms. Strohl inquired whether Caltrans should retain that part of the compensation; Ms. Schofield replied that if Caltrans were willing, it would be beneficial to keep in the project conservation measures.

Plant surveys were also discussed since Caltrans felt that its surveys had been performed to protocol level. Additional floristic surveys had been conducted in 2008 for the Madera Pools project located on SR 41 nearby in Madera County and had been used as a reference site for the project considered here. In this instance, Caltrans had communicated with species expert, Ms. Cypher, and felt that the appropriate survey periods and methods had been met. No FOC were found within the current project footprint, while Greene's tuctoria was considered extirpated from Fresno County.

Ms. Strohl broached the topic of the FOC critical habitat. Ms. Schofield explained that the Service does not request compensation for critical habitat, since it cannot be replaced and compensation must be applied to the species itself. Ms. Schofield inquired about the discrepancy between the B.A's text and the table in regards to several of the plant-related 'no effect' determinations: e.g. Greene's tuctoria, SJ adobe sunburst, SJ valley orcutt grass, and the FOC. The text discussed possible effects to the plants as a result of project construction; yet the table made 'no effect' calls. Ms. Strohl asked about the Service's recommendation to conduct preconstruction surveys and Ms. Schofield explained that based on the timeline of the project, it would be beneficial to confirm whether any plants colonize the site during the interim period.

Ms. Strohl stated that Caltrans would attempt to compensate for the VPFS, CTS, and FOC all at once; therefore, the Service's suggestion for Caltrans to use Sand Creek Conservation Bank would not be ideal as the bank does not include all of the project's relevant species. Ms. Schofield replied that this was one suggestion since nothing had been proposed in the B.A. and was further based on the project area and the bank's coverage of two of the species.

February 4, 2010. Virginia Strohl telephoned Ms. Schofield to clarify how the FOC should be handled. Caltrans was comfortable with its 'no effect' determination for the plant (she stated that

Caltrans still planned to conduct preconstruction surveys), but proposed to compensate for the FOC's critical habitat. Ms. Schofield explained that the Service treats a species and its critical habitat as two separate entities and since critical habitat is designated as specific areas/units and cannot be acquired or replaced independently, compensation would not really be applicable.

February 9, 2010. Ms. Schofield e-mailed Ms. Strohl to clarify some terminology ('no effect,' 'not likely to adversely affect,' 'likely to adversely affect') in relation to the species versus its critical habitat. She also explained how Caltrans might proceed regarding compensation if it chose to retain a 'no effect' determination for the species, but a 'not likely to adversely affect' determination for the critical habitat.

February 10, 2010. Ms. Strohl telephoned Ms. Schofield to inform her that the previous information she had provided to Caltrans had been helpful.

February 26, 2010. During the informal quarterly meeting held between the Service (Mr. Sanchez and Ms. Schofield) and Caltrans (Ms. Cox, Gail Miller, Mr. Parker, and Ms. Strohl), Caltrans said it had prepared a response to the Service's 30-day letter. The bulk of its analyses in regards to the plant species of concern voiced in the Service's letter were in fact not included in the B.A., so more information would be forthcoming in its response.

March 5, 2010. The Service received Caltrans' response letter, dated February 25, 2010, in which it addressed the Service's questions and provided additional support for plant survey results and species' determinations (i.e. 'likely to adversely affect' for the VPFS and CTS; 'not likely to adversely affect' for the SJKF and FOC critical habitat; and 'no effect' for FOC, CJF, Greene's tuctoria, SJV orcutt grass, and SJ adobe sunburst). Caltrans also requested the removal of its proposed compensation for FOC critical habitat from the conservation measures.

BIOLOGICAL OPINION

Project Description

Caltrans, in conjunction with the Federal Highway Administration (FHWA), proposes to remove, re-align, and decrease the angle of the existing non-standard curve near the intersection of East Shepherd Avenue and State Route (SR) 168, between postmiles (PM) 14.2 and 15.1, in eastern Fresno County, California. The curve will be re-aligned directly to the north of the existing alignment, on adjacent roadside and non-native annual grassland habitat, and impacting an area of approximately eight ac. The project will require the acquisition of four ac of new ROW and will result in three ac of new pavement and one ac of new shoulder. The site of the existing curve has been identified as one at which there have been many vehicular accidents, collisions, and fatalities. The purpose of the project is to reduce the severity of the curve in order to improve the safety level and reduce the number of accidents and collisions at the location. Improvements addressing storm-water runoff and highway drainage will also be included, as will the permanent closure of East Shepherd Avenue access onto SR 168.

The project is scheduled during the fall and winter season, beginning construction in September 2012 and finishing in February 2013.

At this stage, Caltrans does not yet know from where the contractor will derive the fill material, but the contractor will be responsible for the selection and the environmental compliance of the fill and borrow material. Environmental compliance will be obtained prior to the start of construction activities.

Proposed Avoidance and Minimization Measures

According to the B.A., Caltrans' response letter, and further discussion with Caltrans biologists, Caltrans proposes to implement the following measures to minimize and avoid impacts to sensitive natural communities, plant species, and listed species that occur within the project area.

Construction Guidelines and General Measures for all Species

1. Prior to construction, Caltrans will install orange mesh fencing along the Caltrans right-of-way (ROW) to avoid accidental construction-related impacts to Northern Hardpan Vernal Pool habitat.

2. Equipment parking, project access, supply logistics, equipment maintenance, vehicle staging, and other project-related activities will occur only on existing roadways and pullouts, unless a Service-approved biologist approves otherwise.

3. Sensitive vernal pool or upland areas adjacent to the construction activities will be fenced and designated as environmentally sensitive areas (ESA) in order to prevent accidental construction-related impacts.

4. Caltrans will implement a worker educational training to instruct personnel on the status of vernal pool habitat, how to avoid unanticipated effects, and the potential penalties for not complying with the conditions and requirements of the B.O.

5. Prior to construction, a Biological Resource information Program will be prepared and presented to construction personnel, including:

    a. A description of listed species affected by construction, their general ecology, and specific habitats utilized.
    b. Proposed avoidance and minimization measures
    c. Identification of the work area, monitoring areas, and ESAs
    d. Consequences of the take of listed species
    e. What to do when a listed species or look-alike species is observed
    f. Permit requirements to handle or move a listed species

6. Chemicals, lubricants, and petroleum products will be closely monitored and precautions used. If a spill occurs, cleanup will take place immediately. Chemical monitoring precautions will include:

    a. Prior to the commencement of work, the contractor will submit, for acceptance by the engineer, a program to effectively control water pollution during construction. The program will show the schedule for the erosion control work included in the contract and for all water pollution control measures that the contractor proposes to take.
    b. The contractor will comply with Sections 5650 and 12015 of the Fish and Game Code, and other applicable statues relating to the prevention of or abatement of water pollution.
    c. Any oily or greasy substances originating from the contractor's operations will not be allowed to enter or be placed where they will later enter a live stream or other water body.
    d. The contractor will provide temporary water pollution control measures for any of its operations.
    e. Water containing mud or silt from aggregate washing or other operations will be treated by filtration or retention in a settling pond in order to prevent muddy water from entering water bodies.

7. Habitat areas temporarily impacted by project activities will be restored to their original condition once construction is completed.

Proposed Measures for Plants

1. Caltrans will conduct preconstruction floristic surveys during the initial March-May spring blooming period prior to project groundbreaking in order to discover any changes in or new additions to the floristic composition on the project site.

2. Soil will not be imported into or permanently removed from locations in which the spiny-sepaled button-celery occurs, in an effort to preserve the species and suitable soils, and to encourage the establishment of new plants in disturbed areas.

3. Topsoil will be collected and salvaged from areas in which the spiny-sepaled button-celery could be disturbed. Topsoil will be stored at an appropriate site within the project area and will be replaced once construction activities have been completed in order to reestablish a seed bank for the species.

Proposed Measures for Listed Species

1. Caltrans proposes to compensate for direct effects to the VPFS and CTS as a result of the permanent modification and loss of vernal pool habitat for the VPFS and aquatic breeding habitat for the CTS, by applying a 3:1 compensation ratio to 0.320 ac (=0.960 credits),

and for indirect effects by applying a 1.1 compensation ratio to 0.709 ac (=0.779 credits). Caltrans also proposes to compensate for direct effects to 4.000 ac of CTS upland habitat, using a 3:1 compensation ratio (=12.000 credits). This results in a total of 13.739 credits to be purchased at Sand Creek Conservation Bank or another Service-approved conservation bank that addresses both species together and whose service area covers the project area.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed project, the action area covers a total of approximately 13 ac, encompassing the vernal pool complex at the project site The action area includes the immediate project impact area (PIA), defined by Caltrans as the area to be directly impacted by construction realignment activities. This is comprised of the approximately 0.6 mile (mi) segment of existing SR 168; the proposed realignment; agricultural land/grassland habitat within the existing and proposed ROW; 10 directly affected vernal pools totaling 0.320 ac; and 4.00 ac of upland habitat. The action area also includes indirect effects, as a result of activities associated with the curve realignment work, to an additional seven vernal pools totaling 0.709 ac and associated upland habitat within the vernal pool complex. Lastly, the action area includes the as yet unidentified borrow site from which the contractor will obtain fill material for construction purposes.

Status of the Species

California Tiger Salamander

On May 23, 2003, the Service proposed to list the Central California Distinct Population Segment (DPS) of the CTS as threatened. At this time the Service also proposed reclassification of the Santa Barbara County DPS and Sonoma County DPS from endangered to threatened (68 FR 28647). On August 4, 2004, after determining that the listed Central California population of the California DPS of the CTS was threatened (69 FR 47211), the Service determined that the Santa Barbara and Sonoma County populations were threatened as well, and reclassified the CTS as threatened throughout its range (69 FR 47211), removing the Santa Barbara and Sonoma County populations as separately listed DPSs (69 FR 47241). In this notice the Service also finalized the special rule to exempt take for routine ranching operations for the CTS throughout its range (69 FR 47248).

On August 18, 2005, as a result of litigation of the August 4, 2004 final rule on the reclassification of the CTS DPSs (*Center for Biological Diversity et al.* v. *United States Fish and Wildlife Service et al.*, C 04-04324 WHA (N.D. Cal., 2005)), the District Court of Northern California sustained the portion of the 2004 rule pertaining to listing the Central CTS as threatened with a special rule, vacated the 2004 rule with regard to the Santa Barbara and Sonoma DPSs, and reinstated their prior listing as endangered. The List of Endangered and Threatened Wildlife in part 17, subchapter B of Chapter I, title 50 of the Code of Federal

Regulations (CFR) has not been amended to reflect the vacatures contained in this order, and continues to show the range-wide reclassification of the CTS as a threatened species with a special rule. The Service is currently in the process of correcting the CFR to reflect the current status of the species throughout its range.

Description

The CTS is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults may reach a total length of 8.2 inches (in) (Petranka, 1998). The CTS exhibits sexual dimorphism with males tending to be larger than females. The coloration of the CTS is white or yellowish markings against black. As adults, CTS tend to have creamy yellow to white spotting on the sides with much less on the dorsal surface of the animal, whereas other tiger salamander species have brighter yellow spotting that is heaviest on the top of the animals.

Distribution

Historically, the CTS inhabited low elevation grassland and oak savanna plant communities of the Central Valley, and adjacent foothills, and the inner Coast Ranges in California (Jennings and Hayes, 1994; Storer, 1925; Shaffer *et al.*, 1993). Along the Coast Ranges, the species occurred from the Santa Rosa area of Sonoma County south to the vicinity of Buellton in Santa Barbara County. In the Central Valley and surrounding foothills, the species occurred from northern Yolo County southward to northwestern Kern County and northern Tulare County. Currently, CTS in the Central Valley and Sierra Nevada foothills are patchily distributed from northern Yolo County southward to northwestern Kern County and northern Tulare and Kings Counties. In the Coast Ranges, the CTS is found in southern Sonoma County, San Mateo County south to San Luis Obispo County, and northwestern Santa Barbara County. The species has been recorded as ranging from near sea level, to approximately 3,900 ft in the Coast Ranges, to approximately 1,600 feet in the Sierra Nevada foothills (Shaffer *et al.*, 2004).

Life History

The CTS has an obligate biphasic life cycle (Shaffer *et al.*, 2004) and requires both wetland and adjacent upland habitat to complete its life cycle (Shaffer *et al.*, 1993). Although the larvae develop in the vernal pools and ponds in which they were born, CTS are otherwise terrestrial and spend most of their post-metamorphic lives in widely dispersed underground retreats (Shaffer *et al.*, 2004; Trenham *et al.*, 2001). Subadult and adult CTS spend the dry summer and fall months of the year in small mammal burrows, such as those of California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Storer, 1925; Loredo and Van Vuren, 1996; Petranka, 1998; Trenham, 1998a). Initially, it was believed that during this period, CTS ate very little (Shaffer *et al.*, 1993), but new evidence is indicating that the CTS may be very active during this time and feed regularly.

Once fall or winter rains begin, the CTS emerges from the upland sites on rainy nights to feed and to migrate to the breeding ponds (Stebbins, 1985 and 1989; Shaffer *et al.*, 1993). Adult CTS mate in the breeding ponds, after which the females lay their eggs in the water (Twitty, 1941; Shaffer *et al.*, 1993; Petranka, 1998). Historically, the CTS utilized vernal pools, but the animals also currently breed in livestock stock ponds. Females attach their eggs singly, or in rare circumstances, in groups of two to four, to twigs, grass stems, vegetation, or debris (Storer, 1925, Twitty, 1941). In ponds with no or limited vegetation, they may be attached to objects, such as rocks and boards on the bottom (Jennings and Hayes, 1994). After breeding, adults leave the pool and return to the small mammal burrows (Loredo *et al.*, 1996; Trenham, 1998a), although they may continue to come out nightly for approximately the next two weeks to feed (Shaffer *et al.*, 1993). In drought years, the seasonal pools may not form and the adults cannot breed (Barry and Shaffer, 1994).

The larval stage of the CTS usually lasts three to six months, as most seasonal ponds and pools dry up during the summer (Petranka, 1998). Amphibian larvae must grow to a critical minimum body size before they can metamorphose (change into a different physical form) to the terrestrial stage (Wilbur and Collins, 1973). Feaver (1971) found that larvae metamorphosed and left the breeding pools 60 to 94 days after the eggs had been laid, with larvae developing faster in smaller, more rapidly drying pools. The longer the ponding duration, the larger the larvae and metamorphosed juveniles are able to grow, and the more likely they are to survive and to reproduce (Pechmann *et al.*, 1989; Semlitsch *et al.*, 1988; Morey, 1998; Trenham, 1998b). The larvae will perish if a site dries before metamorphosis is complete (Anderson, 1968; Feaver, 1971). Pechmann *et al.*, (1989) found a strong positive correlation with ponding duration and total number of metamorphosing juveniles in five salamander species. Size at metamorphosis is positively correlated with stored body fat *and* survival of juvenile amphibians, and negatively correlated with age at first reproduction (Semlitsch *et al.*, 1988; Scott, 1994; Morey, 1998).

In the late spring or early summer, before the ponds dry completely, metamorphosed juveniles leave them and enter upland habitat. This emigration occurs in both wet and dry conditions (Loredo and Van Vuren, 1996; Loredo *et al.*, 1996). Unlike their winter migration, the wet conditions that CTS prefer do not generally occur during the months in which their breeding ponds begin to dry. As a result, juveniles may be forced to leave their ponds on rainless nights. Under these conditions, they may move only short distances to find temporary upland sites for the dry summer months, waiting until the next winter's rains to move further into suitable upland refugia. Once juvenile CTS leave their birth ponds for upland refugia, they typically do not return to ponds to breed for an average of four to five years. However, they remain active in the uplands, coming to the surface during rainfall events to disperse or forage.

The upland component of CTS habitat typically consists of grassland savannah. Within these upland habitats, adult CTS spend the greater part of their lives in the underground burrows of California ground squirrels and Botta's pocket gophers (Barry and Shaffer, 1994; Loredo *et al.*, 1996; Trenham, 1998a). However, a recent study has shown that an apparent absence of rodent burrows does not directly result in an absence of CTS. Significant numbers of CTS were found

to inhabit upland habitat that appeared to be without rodent burrows (Orloff, 2007). Camel crickets (*Ceuthophilus spp.*) and other invertebrates within these burrows provide food for CTS, as well as protection from the sun and wind associated with the dry California climate that can cause desiccation (drying out) of amphibian skin. Although CTS are members of a family of "burrowing salamanders," they are not known to create their own burrows in the wild, likely due to the hardness of soils in the California ecosystems in which they are found. Because they live underground in the burrows of mammals, CTS are rarely encountered even where abundant. The burrows may be active or inactive, but because they collapse within 18 months if not maintained, an active population of burrowing mammals is necessary to sustain sufficient underground refugia for the species (Loredo *et al.*, 1996). CTS may also utilize leaf litter or desiccation cracks in the soil as refugia.

Upland burrows inhabited by CTS have often been referred to as "aestivation" sites. However, "aestivation" implies a state of inactivity, while most evidence suggests that CTS remain active in their underground dwellings. A recent study has found that CTS move, feed, and remain active in their burrows (van Hattem, 2004). Because CTS arrive at breeding ponds in good condition and are heavier when entering the pond than when leaving, researchers have long inferred that CTS are feeding while underground. Recent direct observations have confirmed this (Trenham, 2001; van Hattem, 2004). Thus, "upland habitat," rather than "aestivation" site, is a more accurate description of the terrestrial areas used by CTS. Dispersal and migration movements made by CTS can be grouped into two main categories: (1) breeding migration; and (2) interposed dispersal. Breeding migration is the movement of CTS to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live continuously for several years. Following breeding, adult CTS return to upland habitats, where they may live for one or more years before breeding again (Trenham *et al.*, 2000).

CTS are known to travel large distances from breeding ponds into upland habitats. Maximum distances moved are generally difficult to establish for any species, but CTS in Santa Barbara County have been recorded to disperse 1.3 mi from breeding ponds (Sweet, 1998). CTS are known to travel between breeding ponds; one study found that 20 to 25 percent of the individuals captured at one pond were recaptured later at ponds approximately 1,900 and 2,200 ft away (Trenham *et al.*, 2000). In addition to traveling long distances during migration to or dispersal from ponds, CTS may reside in burrows that are far from ponds.

Although previously cited information indicates CTS can travel long distances, they typically remain close to their associated breeding ponds. A trapping study conducted in Solano County during the winter of 2002-2003 suggested that juveniles dispersed and used upland habitats further from breeding ponds than adults (Trenham and Shaffer, 2005). These data suggest that many CTS travel far while still in the juvenile stage. Post-breeding movements away from breeding ponds by adults, however, appear to be much shorter. During post-breeding

emigration from aquatic habitat, radio-equipped adult CTS were tracked to burrows located between 62 and 813 ft from their breeding ponds (Trenham, 2001).

Rather than staying in a single burrow, most individuals also appear to use several successive burrows at increasing distances from the pond. Although the studies discussed above provide an approximation of the distances that CTS regularly move from their breeding ponds, upland habitat features will drive the details of movements in a particular landscape. Trenham (2001) found that radio-tracked adults favored grasslands with scattered large oaks, over more densely wooded areas. Based on radio-tracked adults, there is no indication that certain habitat types are favored as corridors for terrestrial movements (Trenham, 2001). In addition, at two ponds completely encircled by drift fences and pitfall traps, captures of arriving adults and dispersing new metamorphs were distributed roughly evenly around the ponds. Thus, it appears that dispersal into the terrestrial habitat occurs randomly with respect to direction and to habitat types.

Lifetime reproductive success for CTS and other tiger salamanders is low. Trenham *et al.* (2000) found the average female bred 1.4 times and produced 8.5 young that survived to metamorphosis per reproductive effort. This resulted in roughly 11 metamorphic offspring over the lifetime of a female. While individuals may survive for more than ten years, many breed only once, and in some populations, less than five percent of marked juveniles survive to become breeding adults (Trenham, 1998b). With such low recruitment, isolated populations are susceptible to unusual, randomly occurring natural events as well as to human-caused factors that reduce breeding success and individual survival. Factors that repeatedly lower breeding success in isolated pools can quickly extirpate a population.

Threats analysis

In addition to direct loss of habitat, the widespread conversion of undisturbed land to urban and agricultural uses has fragmented habitat throughout the range of the CTS and has isolated several remaining populations (Shaffer *et al.*, 1993), precluding dispersal between sub-populations and jeopardizing the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or "rescuing" extinct habitat patches). CTS are also prone to chance environmental or demographic events, to which small populations are particularly vulnerable.

Agricultural activities that threaten CTS survival include disking and deep-ripping, as well as the cultivation, planting, and maintenance of row crops, orchards, and vineyards. Historically in California, there existed approximately 15.59 million acres of valley and coastal grasslands, blue oak/foothill pine, valley oak, or mixed hardwood lands (Kuchler, 1988). Urbanization and intensive agriculture have eliminated virtually all valley grassland and oak savanna habitat from the Central Valley floor. Currently there are about 11 million acres where the Central California DPS CTS is still potentially extant.

Light-to-moderate livestock grazing by cattle, sheep, and horses is generally thought to be compatible with continued successful use of rangelands by the CTS so long as the grazed areas do not also have intensive burrowing rodent control efforts (Shaffer *et al.*, 1993; S. Sweet, personal communication, 1998; B. Shaffer and P. Trenham, personal communication, 2003). By maintaining shorter vegetation, grazing may make areas more suitable for ground squirrels whose burrows are essential to CTS. Widespread control of ground squirrels and pocket gophers may also pose a significant indirect threat to the CTS by reducing the number of upland burrows available to specific CTS subpopulations (Loredo-Prendeville *et al.*, 1994).
The relative loss of native habitat has been even more extreme with respect to vernal pools, the historic breeding habitat of the CTS. Remaining vernal pool complexes are now fragmented and reduced in area. Where vernal pools remain, they are often disturbed and degraded by drainage modification, overgrazing, off road vehicles use, non-native plant invasion, trash dumping, road construction, and urban development (Service, 1994b; Keeler-Wolf *et al.*, 1998). While CTS do breed successfully in stock ponds, these ponds often are poorer habitat for CTS than are natural vernal pools. Hydropeniods in stock ponds may be so short that larvae cannot metamorphose, or so long that predatory fish and bullfrogs can colonize the pond (Shaffer *et al.*, 1993; Seymour and Westphal, 1994). Extirpation of CTS in stock ponds is likely if, as commonly occurs, fish are introduced (Shaffer *et al.*, 1993; Seymour and Westphal, 1994). A number of non-native species have adversely affected the CTS through predation and competition. A strong negative correlation exists between bullfrog (*Rana catesbeiana*) presence and CTS presence (Shaffer *et al.*, 1993; Seymour and Westphal, 1994). Morey and Guinn (1992) documented a shift in amphibian community composition at a vernal pool complex, with CTS becoming proportionally less abundant as bullfrogs increased in number. Permanent ponds occupied by bullfrogs and exotic fishes are often considered unsuitable as viable breeding habitat (Fisher and Shaffer, 1996). Loredo-Prendeville *et al.* (1994) failed to find any CTS inhabiting ponds containing western mosquito fish. A number of other non-native fish species have either been directly implicated in the predation of CTS, or appear to have the potential to do so. Non-native sunfish, catfish, and bullheads (*Ameiurus spp.*) have been, and still are, widely introduced to ponds in California for sport fishing.

Another current factor associated with declining populations of the Central California DPS is hybridization with the non-native eastern tiger salamander (*Ambystoma tigrinum*) (Fitzpatrick and Shaffer, 2004; Riley *et al.*, 2003). Continued colonization of existing habitat by non-native tiger salamanders may in fact represent the most significant current threat.

Documented and potential CTS predators include coyotes (*Canis latrans*), raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), Virginia opossums (*Didelphis virginiana*), egrets (*Egretta spp.*), great blue herons (*Ardea herodias*), American crows (*Corvus brachyrhynchos*), common ravens (*Corvus corax*), garter snakes (*Thamnophis spp.*), California red-legged frogs, western mosquito fish (*Gambusia affinis*), and crayfish (*Procrambus spp.*).

During 2001, the 23 counties in which CTS occur, used over 105 million pounds of pesticides (California Department of Pesticide Regulation, 2002). Some of these pesticides are extremely

toxic to aquatic organisms, including amphibians and the organisms on which they prey. Some of these pesticides, such as chloropyrifos, malathion, and endosulfin are cholinesterase inhibitors. Reduced cholinesterase activity has been linked to uncoordinated swimming, increased vulnerability to predation, depressed growth, and increased mortality in tadpoles (Berrill *et al.*, 1998; Bridges, 1997; de Llamas *et al*, 1985; Rosenbaum *et al.*, 1988; Sparling *et al.*, 2001).

Since CTS inhabit both aquatic and terrestrial habitats at different stages in their life cycles, they are thus exposed to both aquatic and terrestrial pollutants due to their highly permeable skin (Blaustein and Wake, 1990). Even when toxic or detectable amounts of pesticides are not found in breeding ponds or groundwater, CTS may still be affected, particularly by chemicals applied during the migration and dispersal seasons.

The specific effects of disease on the CTS are not known. Pathogens, fungi, water mold, bacteria, and viruses have been known to adversely affect other tiger salamander species or other amphibians. Pathogens are suspected of causing global amphibian declines (Davidson *et al.*, 2003). Nonnative species, such as bullfrogs, are located within the range of the Central California DPS and have been identified as potential carriers of Chytridiomycosis (a fungal infection) and ranaviruses, which can adversely affect amphibians. Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e., contaminated boots or fishing equipment). Disease will likely become a growing threat because of the relatively small, fragmented remaining CTS breeding sites, the many stresses on these sites due to habitat losses and alterations, and the many other potential disease-enhancing anthropogenic changes which have occurred both inside and outside the species' range.

The Service determined that conserving the CTS over the long-term requires a five-pronged approach: (1) maintaining the current genetic structure across the species range; (2) maintaining the current geographical, elevational, and ecological distribution; (3) protecting the hydrology and water quality of breeding pools and ponds; (4) retaining or providing for connectivity between locations for genetic exchange and re-colonization; (5) protecting sufficient barrier-free upland habitat around each breeding location to allow for sufficient survival and recruitment to maintain a breeding population over the long-term. Specific actions that help meet these goals include, but are not limited to (1) protection, restoration, and management of large blocks of contiguous aquatic and terrestrial habitat; (2) management of stock ponds to eliminate or reduce populations of normative predators; (3) elimination of normative tiger salamanders and their hybrids; and (4) reduced exposure to contaminants, particularly in the vulnerable larval stages (Service, 2004b, 2005a).

Vernal Pool Fairy Shrimp

The VPFS was listed as threatened on September 19, 1994 (Service, 1994a).

Distribution

The VPFS is currently found in 28 counties across the Central Valley and Coast Ranges of California, and in Jackson County of southern Oregon. The species occupies a variety of vernal pool habitats and occurs in 11 of the 17 vernal pool regions identified in California (Keeler-Wolf *et al.*, 1998). Although the VPFS is distributed more widely than most other fairy shrimp species, it is generally uncommon throughout its range and rarely abundant where it does occur (Eng *et al.*, 1990; Eriksen and Belk, 1999). Helm (1998) found VPFS in only 16 percent of pools sampled across 27 Counties, and Sugnet (1993) found this species in only five percent of 3,092 sampled locations.

In the San Joaquin Valley Vernal Pool Region, the VPFS is found at the grasslands Ecological Area in Merced County, at the Pixley national Wildlife Refuge in Tulare County, and at isolated locations in Kings and Stanislaus Counties. In the Southern Sierra Foothills Vernal Pool Region, the VPFS is known from the Stone Corral Ecological Reserve and the Hogwallow Preserve in Tulare County and from scattered locations on private lands in Stanislaus, San Joaquin, Fresno, Madera, and Merced Counties.

The historical distribution of this species coincides with the historical distribution of vernal pools in California's Central Valley and southern Oregon. Holland (1978) estimated that roughly 4,000,000 ac of vernal pool habitat existed in the Central Valle prior to the widespread agricultural development that began in the mid-1800s. He found that although current and historical distribution of vernal pools are similar, vernal pools are now far more fragmented and isolated from each other during historical times and currently occupy only about 25 percent of their former land area (Holland, 1998). The current distribution of the VPFS in the Central Valley may be similar to its historical distribution in extant, but remaining populations are now considerably more fragmented and isolated than in pre-agricultural times.

Species Description

The VPFS has a delicate elongate body, large stalked compound eyes, no carapace and 11 pairs of phyllopods, or gill-like structures that also serve as legs. They swim or glide gracefully upside down by means of complex beating movements of the legs that pass in a wave-like anterior to posterior direction. VPFS are filter feeders, and consume algae, bacteria, protozoa, rotifers, and bits of detritus as they move through the water. The females carry eggs in an oval or elongate ventral sac (brood sac). Once fertilized, the eggs are coated with a protective protein layer that allows them to withstand heat, cold, anoxic conditions, and prolonged dehydration. The fully developed eggs are either dropped to the pool bottom or remain within the brood sac until the female dies and sinks.

Life History

VPFS are highly adapted to the conditions of their ephemeral habitats. One adaptation is the ability of the VPFS eggs, or cysts, to remain dormant in the soil when their vernal pool habitats are dry. Cysts that do not hatch remain dormant and viable in the soil. These may hatch in a following year and form a cyst bank, which may be comprised of cysts from multiple years of breeding. Vernal pool crustaceans like the VPFS actually depend on dry conditions during the summer months in order to discourage aquatic predator species such as bullfrogs, garter snakes, and fish (Eriksen and Belk, 1999). Another critical adaptation is that the VPFS has a relatively short life span, allowing it to hatch, mature to adulthood, and reproduce during the short time period when vernal pools contain water. The VPFS can reach sexual maturity in as few as 18 days at optimal conditions of 68 degrees Fahrenheit, and can complete its life cycle in as little as nine weeks (Gallagher, 1996; Helm, 1998). However, maturation and reproduction rates of vernal pool crustaceans are controlled by water temperature and can vary greatly (Eriksen and Brown, 1980; Helm, 1998). Helm (1998) observed the VPFS did not reach maturity until 41 days at water temperatures of 59 degrees Fahrenheit. Helm (1998) observed six separate hatches of VPFS in a single pool within a single wet season, and Gallagher (1996) observed three separate hatches of VPFS in vernal pools in Butte County. In larger pools that hold water for longer durations, VPFS are capable of hatching multiple times if water temperatures drop to or below 50 degrees Fahrenheit, a necessary environmental cue for VPFS cyst hatching (Gallagher, 1996; Helm, 1998). Helm (1998) observed VPFS living for as long as 147 days.

Vernal pool crustaceans like the VPFS are often dispersed from one pool to another through surface swales that connect one pool to another. These dispersal events allow for genetic exchange between pools and create a population of animals that extends beyond the boundaries of a single vernal pool. Rather, populations are defined by the entire vernal pool complex in which they occur (Simovich *et al.*; 1992, King 1996). These dispersal events also allow VPFS and other vernal pool crustaceans to move into pools with a range of sizes and depths; this allows these species to survive the environmental variability that is characteristic of their habitats.

Upland areas associated with vernal pools are also an important source of nutrients to vernal pool organisms (Wetzel, 1975). Vernal pool habitats derive most of their nutrients from detritus which is washed into the pool from adjacent uplands, and these nutrients provide the foundation for vernal pool aquatic communities' food chain. Detritus is a primary food source for the vernal pool crustaceans (Eriksen and Belk, 1999).

Threats Analysis

The VPFS is imperiled by a variety of human-caused activities, primarily urban development, water supply/flood control projects, and land conversion for agricultural use. Habitat loss occurs from direct destruction and modification of pools due to filling, grading, discing, and leveling, as well as modification of surrounding uplands which alters vernal pool watersheds. Other activities which adversely affect these species include off-road vehicle use, certain mosquito

abatement measures, and pesticide/herbicide use. The most significant threat is attributed to the loss of habitat associated with human activities, including urban/suburban development, water supply/flood control development, and conversion of natural lands to intensively farmed agricultural uses.

In addition to direct habitat loss, VPFS habitat is also highly fragmented throughout its range due to the nature of vernal pool landscapes and the conversion of natural habitat by human activities. Such fragmentation results in small, isolated populations of VPFS that may be more susceptible to extinction due to random demographic, genetic, and environmental events.

Environmental Baseline

California Tiger Salamander

The action area is located within the historic range of those CTS inhabiting the Central Valley grassland and oak savanna plant communities at low elevations. A primary cause of the decline of the CTS is the conversion of natural habitat to modified habitat for urban uses (Service, 2003b, 2004a, 2004b; Shaffer *et al.*, 1993). Roads in particular can lead to habitat loss, stemming from construction, road widening, and other activities like realignment. Suitable breeding habitat for the CTS exists in the action area in the form of 18 vernal pools; 11 of these pools are adjacent to or highly proximal to the existing highway and the proposed realignment of the segment of SR 168. According to the California Natural Diversity Database (CNDDB, 2010), there are seven recorded occurrences of the species within the Round Mountain 7.5-minute United States Geological Survey (USGS) quadrangle in which the action area lies, with the two most recent observations dating from December 2007; CTS larvae were documented. There are also four recorded occurrences within the Academy 7.5-minute USGS quadrangle to the north of the action area. One occurrence is located approximately 1.5 miles to the northwest of the action area.

Caltrans did not conduct CTS surveys for the project and instead assumed presence of the species based on the existence of suitable breeding and upland habitat for the CTS within the action area, as well as based on the CNDDB documentation. The Service anticipates that the CTS is reasonably certain to occur within the action area based on the biology and ecology of the species; the presence of suitable aquatic and upland habitat (in the form of vernal pools and grassland, respectively) necessary for the breeding, foraging, aestivation, and dispersal functions and stages of the life of the CTS; and documented occurrences of the species in locales proximate to the project's action area.

Vernal Pool Fairy Shrimp

Vernal pool crustaceans like the VPFS suffer from loss and degradation of habitat and continue to be impacted by a variety of human activities that render existing vernal pools unsuitable for the species. Such effects are a result of changes to natural hydrology due to encroachment of roads

and urbanization. Caltrans conducted protocol-level vernal pool branchiopod surveys for one wet season during the winter and spring of 2008, following the Service's 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section o10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. As a result of these surveys, a total of 18 pools were identified within the action area. The VPFS was specifically identified within four of these pools, with two non-listed species, California linderiella (*Linderiella occidentalis*) and Midvalley fairy shrimp (*Branchinecta mesovallensis*), also identified in four pools. Eleven pools were found to contain no fairy shrimp, but presence of VPFS was inferred based on the habitat features and close proximity to those pools containing the VPFS and other branchiopod species. Ten pools, totaling 0.320 ac, were determined to be directly impacted by the project action, while seven pools, totaling 0.709 ac, were determined to be indirectly impacted by the action. The final pool, located further north, away from the realignment activities, was determined to be neither directly nor indirectly impacted by the action. According to the CNDDB (2010), there are five recorded occurrences of the species within the Round Mountain 7.5- minute USGS quadrangle, with the most recent observation from March 2008, and another five recorded occurrences within the Academy 7.5-minute USGS quadrangle located to the north of the action area.

Analytical Framework for the Jeopardy/No Jeopardy Determination

In accordance with policy and regulation, the following analysis relies on four components to support the jeopardy/no jeopardy determination for the CTS and VPFS: (1) the *Status of the Species*, which evaluates the range-wide condition of the CTS and VPFS, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the CTS and VPFS in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the CTS and VPFS; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the CTS and VPFS.

In accordance with policy and regulation, the jeopardy/no jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the CTS and VPFS, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the CTS and VPFS in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the CTS and VPFS and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed Federal action, combined with cumulative effects, for purposes of making the jeopardy/no jeopardy determination. In short, a non-jeopardy determination is warranted if the proposed action is consistent with maintaining the role of habitat and the CTS and VPFS populations in the action area for the survival and recovery of the two species.

Effects of the Proposed Action

California Tiger Salamander and Vernal Pool Fairy Shrimp

The proposed project is likely to result in a number of adverse effects to the CTS and VPFS. Construction activities will directly affect 0.320 ac of aquatic habitat in the form of 10 vernal pools within the complex due to excavation, filling, and paving occurring in these areas. The VPFS is linked throughout its entire life cycle to vernal pool habitat; individual adults and their cysts thus could be directly injured or killed by such activities, which will lead to the permanent modification and loss of the pools in which they exist.

These pools also serve as potential CTS breeding sites and are therefore essential to subsequent larval growth and development. Project activities will further directly and permanently affect 4.00 ac of suitable CTS upland habitat, in which the species burrows and lives. Since the CTS spends the majority of its life cycle in upland areas, the loss of this habitat is also a significant adverse effect.

Construction activities will indirectly affect 0.709 ac of CTS and VPFS aquatic habitat in the form of seven vernal pools within the complex. This will arise from activities as they relate to the realignment of the curve just west of the intersection of E. Shepherd Avenue and SR 168, i.e. acquiring new ROW, filling, and paving. These types of activities can further alter the topography and even potentially the drainage and hydrology of the pools and neighboring upland areas. Infrastructure-related activities like grading and filling can affect the amount and quality of water available to the perched water tables characteristic of vernal pool areas. Changes to the perched water table can lead to alterations in the rate, extent, and duration of inundation of the remaining habitat on-site following construction (Hanes *et al.*, 1990; Hanes and Stromberg, 1998). A decrease in the duration of inundation of such habitat can affect the reproductive success of species present, including the VPFS and potential larval CTS.

Curve realignment work within the action area could result in the loss of individual CTS. Mortality of, or injury to, adult CTS by project related equipment or vehicles could occur from their being crushed by construction debris and vehicles above ground. Work activities could also harass the CTS such that they leave the project area and surrounding locales. The greatest effects to the CTS will likely come from either crushing or entombment in underground burrows due to activities like grading and filling. To help minimize this effect, Caltrans shall have a Service-approved monitor on-site to observe proceedings during which the CTS may be taken. Caltrans shall also check for CTS individuals in and around construction equipment and in any holes and trenches at the start and close of workdays.

Those CTS that are exposed during earthmoving also could be subject to predation. Aestivating individual CTS disturbed by construction activities in the vicinity could attempt overland movements in an effort to find alternative upland habitat. These individuals could be harassed, injured, or killed by vehicles and urban-adapted predators during overland movements at the project site, or during such attempts to find more suitable habitats in adjacent areas.

Trash left daily during construction activities could attract predators to the work site, which could, in turn harm, harass, or kill the CTS. For example, scavenger species such as ravens and coyotes are attracted to trash as food items and could further seize the opportunity to prey upon the CTS. To aid in minimizing this effect, Caltrans shall remove trash from the project site at the close of each day.

Additional effects resulting in CTS mortality and injury could also occur if the animals are above-ground and attempt to cross the highway during the curve realignment process. For salamanders and amphibians in general, the majority of fatalities occur on rainy nights when they are above ground and/or moving to their breeding ponds. Since Caltrans proposes to work during the fall and winter months, likely rain events during this period will bring individuals above ground to feed and forage, again increasing their risk of being hit on the road. Vehicular mortality remains a direct source of death for many amphibian species, and if sufficiently frequent in a given area, can result in reduced local abundance. Female mortality prior to egg-laying is especially detrimental as this can lead to reduced recruitment of new individuals into the population. It can take several minutes for an amphibian to cross a road (Florida DOT, 1996); this derives from its slow capacity for movement, its inability to notice in time the danger posed by cars and to try to take measures to avoid them, and its tendency to freeze in moments of danger and consequently remain longer on a roadway (Puky, 2005, citing Scoccianti, 2001).

Cumulative Effects

Cumulative effects are those impacts of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The Service is not aware of any non-Federal developments currently planned in the SR 168 action area that are reasonably certain to occur as a result of the action considered in this biological opinion.

Conclusion

The amount of take, in addition to the effects to the species and habitat relative to both the range-wide status of the Central Valley DPS of the CTS as well as the VPFS, are expected to be minimal, and thus supports a non-jeopardy determination for both species. After reviewing the current status of the CTS and VPFS, the environmental baseline for the action area, the effects of the proposed State Route 168 Shepherd Curve Realignment Project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the Central Valley DPS of the CTS or the VPFS.

INCIDENTAL TAKE STATEMENT

Section 9 of the Endangered Species Act and Federal regulations pursuant to section 4(d) of the Act, prohibit take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. The Service defines harassment as an intentional or negligent act or omission that creates the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The Service defines harm to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), take that is incidental to and not intended as part of the agency action is not considered to be prohibited, provided such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are nondiscretionary, and must be implemented by Caltrans so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption under section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity that is covered by this incidental take statement. If Caltrans (1) fails to require the applicant or any of its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

California Tiger Salamander

The Service anticipates that incidental take of the CTS will be difficult to detect for the following reasons: the species is secretive in nature; it is relatively small in size, particularly in its larval form; its dependence on weather, time of the year, and activity patterns make the finding of a dead specimen unlikely; losses may be masked by seasonal fluctuations in their numbers; and the species occurs in habitat types that make it difficult to find. Thus, it is problematic to quantify the number of CTS that are anticipated to be taken as a result of the proposed action. In instances when take calculations are difficult to accurately calculate, the Service may estimate take in numbers of individuals per acre of permanently lost or degraded habitat, as these impacts reflect a significant biological effect to the species. The Service therefore anticipates take incidental to the project as all CTS larvae and adults inhabiting or using 17 vernal pools (direct and indirect effects to 1.029 ac of aquatic breeding habitat), in addition to all CTS inhabiting, using, or moving through 4.00 acres of suitable upland habitat within the project's action area. Upon implementation of the following *Reasonable and Prudent Measures*, incidental take associated with the project in the form of harm, harassment, injury to, or mortality of the CTS stemming from the filling, grading, leveling, and loss of its vernal pool breeding habitat, in

addition to the loss of upland habitat, and the risk of entombment and crushing arising from curve realignment activities and equipment and vehicle presence, will become exempt from the prohibitions described under section 9 of the Act.

Vernal Pool Fairy Shrimp

The Service anticipates that incidental take of the VPFS will be difficult to detect for the following reasons: the species has a very small body size, thereby making the discovery of a dead or injured specimen unlikely; the species occurs in a habitat-type that makes discovery difficult; and losses may be masked by seasonal and annual fluctuations in numbers, chance events, changes in water regime, or other environmental disturbances. Thus, it is problematic to quantify the number of VPFS that are anticipated to be taken as a result of the proposed action. In instances when take calculations are difficult to accurately calculate, the Service may estimate take in numbers of individuals per acre of permanently lost or degraded habitat, as these impacts reflect a significant biological effect to the species. The Service therefore anticipates take incidental to the project as all VPFS adults and cysts living within 17 vernal pools comprising a total of 1.029 ac that will be directly and indirectly affected by project activities. Upon implementation of the following *Reasonable and Prudent Measures*, incidental take associated with the project in the form of injury to, or mortality of the VPFS stemming from the filling, grading, leveling, permanent modification, and loss of its vernal pool habitat, will become exempt from the prohibitions described under section 9 of the Act.

Effect of Take

In the accompanying B.O., the Service has determined that this level of anticipated take is not likely to jeopardize the continued existence of the Central Valley DPS of the CTS or the VPFS.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the impact of the State Route 168 Shepherd Curve Realignment Project on the CTS and VPFS.

1. All of the conservation measures proposed in the biological assessment, the *Project Description*, and as augmented and modified below, must be fully implemented.

2. Trash must be handled in a manner to minimize the potential for take of the CTS from scavenger and predator species.

3. On-site monitoring by a Service-approved biologist must be conducted to minimize the potential for take of the CTS and VPFS.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans, as well as any contractor acting on its behalf, must comply with the following terms and conditions, which implement the Reasonable and Prudent Measures described above. These terms and conditions are nondiscretionary.

The following Terms and Conditions implement Reasonable and Prudent Measure one:

1. Caltrans shall include Special Provisions that include the avoidance and minimization measures of this biological opinion in the solicitation for bid information.

2. All equipment shall be maintained such that there will be no leaks of fluids such as gasoline, oils, or solvents.

The following Term and Condition implements Reasonable and Prudent Measure two:

1. To eliminate the risk of increased predation to the CTS, all food-related trash items such as wrappers, cans, bottles, and food scraps must be disposed of in closed containers and removed at least once every day from the entire project site.

The following Terms and Conditions implement Reasonable and Prudent Measure three:

1. A Service-approved biologist shall be on-site or on-call during all activities that could result in the take of listed species. The qualifications of the biologist(s) shall be presented to the Service for review and approval at least 60 calendar days prior to any groundbreaking at the project site. The biologist shall have oversight of implementation of all the measures described in the *Terms and Conditions* of this biological opinion, and if any of the requirements associated with these measures are not being fulfilled, he/she shall have the authority to stop project activities through communication with the Resident Engineer, who shall be responsible for implementing these measures.

2. The Service-approved biologist shall check for animals under any equipment such as vehicles and stored pipes before the start of work each morning. He/she will check all excavated steep-walled holes or trenches greater than six inches deep for the CTS.

3. To prevent inadvertent entrapment of the CTS during construction, all excavated, steep-walled holes or trenches shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist shall immediately place escape ramps or other appropriate structures to allow the animal to escape.

Reporting Requirements

1. Before construction starts on this project, the Service shall be provided with the final documents related to protection of conservation acres, including but not limited to, proof of purchase of conservation bank credits.

2. A post-construction report detailing compliance with the project design criteria described under the *Description of the Proposed Action* section of this biological opinion shall be provided to the Service within 30 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the CTS and VPFS, if any; (5) occurrences of incidental take of the CTS and VPFS, and; (6) any other pertinent information.

3. New sightings of CTS or VPFS or any other sensitive animal species should be reported to the California Natural Diversity Database of the CDFG (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location in which the animals were observed also should be provided to the Service.

Disposition of Individuals Taken

In the case of injured and/or dead CTS and VPFS, the Service shall be notified within one day and the animals shall only be handled by a Service-approved, permitted biologist. Injured CTS and VPFS shall be cared for by a licensed veterinarian or other qualified person. In the case of a dead animal, the individual animal shall be preserved, as appropriate, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or until the Service takes custody of the specimen. Caltrans must report to the Service within one calendar day any information about take or suspected take of federally-listed species not authorized in this opinion. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contacts are Mr. Daniel Russell, Division Chief, Endangered Species Program, Sacramento, at (916) 414-6600 and Mr. Daniel Crum, the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660. The CDFG contact is the Fresno Office at (559) 243-4017.

Any contractor or employee who, during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to his representative at his contracting/employment firm or to Caltrans. This representative must contact the Service within one calendar day in the case of a federally-listed species and contact the CDFG in the case of a dead or injured State-listed species.

CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, or regarding the development of new information. These measures may serve to minimize or avoid further adverse effects of a proposed action on listed, proposed, or candidate species, or on designated critical habitat. They may also serve as suggestions on how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing you with the following conservation recommendations:

1. It is recommended that Caltrans continue to include culverts, tunnels, or overpasses on highways and roadways, allowing for safe passage for the CTS and other wildlife species. Such crossing structures would facilitate the maintenance of viable metapopulations and create safe dispersal corridors for wildlife, which in turn would help reduce road mortalities and enhance public safety. It would be beneficial to the Service if Caltrans were to include photographs, plans, and other information in its biological assessments concerning the incorporation of wildlife passageway designs into future projects.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes the formal consultation for the State Route 168 Shepherd Curve Realignment Project. As provided in 50 CFR §402.16 and in the Terms and Conditions of this biological opinion, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation; otherwise, the project will be out of compliance with this biological opinion.

If you have any questions regarding this biological opinion on the proposed State Route 168 Shepherd Curve Realignment Project, please contact Jen Schofield or Michael Welsh, Acting San Joaquin Valley Branch Chief, at the letterhead address or at telephone (916) 414-6630. The Service wishes to thank you for your continued efforts and dedication to the conservation of America's wildlife resources.

Sincerely,

FOR Susan K. Moore
Field Supervisor

cc:
Mr. Walter C. Waidelich, Jr., Division Administrator, Federal Highway Administration, Sacramento, California
Ms. Annee Ferranti, California Department of Fish and Game, Fresno, California

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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

March 2, 2012

Regulatory Division (SPK-2011-00816)

State of California
Department of Transportation
Central Region Biology Branch, District 6
Attn: Mr. Frank Meraz
855 M Street
Fresno, California 93721

Dear Mr. Meraz:

We are responding to your, January 10, 2012, request for a Department of the Army permit for the SR168 Shepherd Curve Realignment project. On January 20, 2012, we determined your Pre-construction Notification (PCN) was incomplete and requested additional information. On February 17, 2012, as requested, we received additional information to complete your PCN. We reviewed the additional information and determined your PCN was complete on February 22, 2012.

This approximately 42-acre project involves activities, including discharges of dredged or fill material, in waters of the United States to remove and re-align the existing non-standard road curve. The project is located on State Route 168 near the Shepherd Avenue intersection from post mile 14.4 to 15.08, Section 28, Township 12 South, Range 22 East, Mount Diablo Meridian, Latitude 36.867453°, Longitude -119.571511°, Fresno County, California.

Based on available information, and a site visit performed on October 13, 2011, we concur with the amount and location of wetlands and other water bodies on the site as depicted on the enclosed, February 16, 2012, Revised Jurisdictional Verification Aerial Mapping drawing prepared by, URS Corporation biologist, Jaimee Cornwell. The approximately 1.780 acres of wetlands, including vernal pools, and other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

Based on the information you provided, the proposed activity, resulting in the permanent loss of approximately 0.093 acre of vernal pools and swales and 0.009 acre of open waters, is authorized by Nationwide Permit Number 14. However, until Section 401 Water Quality Certification for the activity has been issued or waived, our authorization is denied without prejudice. Once you have provided us evidence of water quality certification, the activity is authorized and the work may proceed subject to the conditions of certification and the Nationwide Permit.

Furthermore, we understand the State of California, Department of Transportation (Caltrans) is the National Environmental Policy Act (NEPA) lead Federal agency for this project, and as such, will ensure the authorized work complies with the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, and any other applicable federal laws. Your work must comply with the general terms and conditions listed on the enclosed Nationwide Permit information sheets and the following special conditions:

Special Conditions

1. To mitigate for the permanent loss of approximately 0.09251 acre of wetlands, you shall submit a check in the amount of $32378.50 ($350,000 per acre x 0.09251 acre of vernal pools) payable to the National Fish and Wildlife Foundation (NFWF) for the creation of 0.09251 acre of vernal pools and swales. The *Tulare-Buena Vista Lakes,* Hydrologic Unit Code #18030012, must be indicated in the in-lieu fee agreement in order to insure the proper location of future mitigation. Within fourteen (14) days of receiving a receipt that your fees have been deposited, you shall submit a copy (typically Exhibit B) to this office for recordation.

2. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify the appropriate Caltrans and U.S. Army Corps of Engineers Regulatory offices of what you have found. Caltrans acting as the lead Federal agency for this project may consult as appropriate to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register, pursuant to 36 CFR Part 800, as amended 8/05/2004.

3. This Corps permit does not authorize you to take an endangered species, in particular California tiger salamander (*Ambystoma californiense*), vernal pool fairy shrimp (*Branchinecta lynchi*), fleshy owl's clover (*Castilleja campestris ssp. succulenta*), and San Joaquin kit fox (*Vulpes macrotis mutica*) or their designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 81420-2010-F-0043-2, dated June 25, 2010) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The U. S. Fish and Wildlife Service and is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. You must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

4. Prior to commencing work in waters of the U.S., you shall submit to this office; a final grading plan, a storm water management plan or water pollution control plan, and a site plan which includes site limits, access roads, disposal, staging, and borrow (DSB) sites. Documentation shall demonstrate usage of the site(s) comply with all local, state and federal environmental and permitted use regulations and must be approved by the Corps prior to commencing work authorized herein.

5. You shall notify this office of the start and completion dates for each phase of the authorized work within 30 calendar days prior to initiation of construction activities within waters of the U.S. and 30 calendar days following completion of construction activities. Along with this notification, you shall submit a copy of the project construction/work schedule or similar report.

6. Within 30 days prior to initiation of construction activities within waters of the United States, you shall submit to the Corps pre-construction photographs of the project site, which have been taken no more than 1 year prior to initiation of construction activities. Within 30 days following construction activities, you shall submit post-construction photographs of the project site, showing the work conducted, to this office. The camera positions and view angles of pre and post-construction photographs shall be identified on a map, aerial photo, or project drawing. Construction locations shall include all major project features and waters of the United States.

7. Within 60 days following completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, you shall submit as-built drawings and a description of the work conducted on the project site to this office for review. The drawings shall include the following:

a. The Department of the Army Permit number (SPK#).

b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," wetland impacts, structures, and the boundaries of any Environmentally Sensitive Areas (ESA) or avoidance areas. The drawings shall contain, at a minimum, 1-foot topographic contours of the entire site.

c. A description and list of all deviations between the work as authorized by this permit and the work as constructed. Clearly indicate, indelible red ink, on the as-built drawings the location of any deviations that have been listed.

8. To prevent unauthorized fills and unforeseen impacts to avoided or adjacent waters, you shall clearly mark and identify the limits of project disturbance in the field with highly visible markers such as construction fencing or silt barriers prior to commencement of construction activities within waters of the U.S. Such identification shall be properly maintained until construction is completed and the soils have been stabilized. Equipment, materials, or any other substances or activity that impact waters of the United States outside of the Corps permit area (as shown on the permit drawings) is prohibited.

9. Between construction seasons, all equipment and materials, with the exception of ESA fencing and/or water quality BMP's, shall be removed from waters of the U.S. and all disturbed areas shall be stabilized to prevent erosion and sedimentation.

10. You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware of and adhere to the terms and conditions of this permit authorization. You shall ensure that a copy of the permit authorization and associated drawings are available for quick reference at the project site until all construction activities are completed.

11. You and your authorized contractor shall allow representatives from this office to inspect the authorized activity and all ESA/avoidance areas at any time deemed necessary to ensure that work is being, or has been, accomplished in accordance with the terms and conditions of this NWP verification.

12. You shall notify this office of any proposed modifications to the project, including revisions to any of the work plans or documents cited in this authorization, for review and approval prior to construction work associated with the proposed modification(s).

13. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify this office. You shall provide us with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

14. Within 30 days after completion of the authorized work, you must sign the enclosed *Compliance Certification* form and return it to this office, along with the items required in special condition #6.

This verification is valid until March 18, 2012, when the existing Nationwide Permits are scheduled to be modified, reissued, or revoked. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Failure to comply with the General Conditions of this Nationwide Permit, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2011-00816 in any correspondence concerning this project. If you have any questions, please contact Mr. Jason Deters at our California South Branch Office, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email *Jason.Deters@usace.army.mil*, or telephone 916-557-7152. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

Paul Maniccia

Paul Maniccia
Chief, California South Branch

Enclosures

Copies Furnished without enclosures
California Regional Water Quality Control Board, Central Valley Region, Fresno Branch Office, 1685 East Street, Suite 200, Fresno, California 93706
California Department of Fish and Game, Central Region, 1234 East Shaw Avenue, Fresno, California 93710
U. S. Fish and Wildlife Service, San Joaquin Valley Division, 2800 Cottage Way, Sacramento, California 95825
Mr. Robert Leidy, U.S. Environmental Protection Agency, Wetlands Office, WTR9, 75 Hawthorne Street, San Francisco, California 94105-3920

COMPLIANCE CERTIFICATION

Permit File Number: SPK-2011-00816

Nationwide Permit Number: 14 – Linear Transportation Projects

Permittee: State of California
Department of Transportation
Central Region Biology Branch, District 6
Attn: Mr. Frank Meraz
855 M Street
Fresno, California 93721

County: Fresno

Date of Verification: March 2, 2012

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

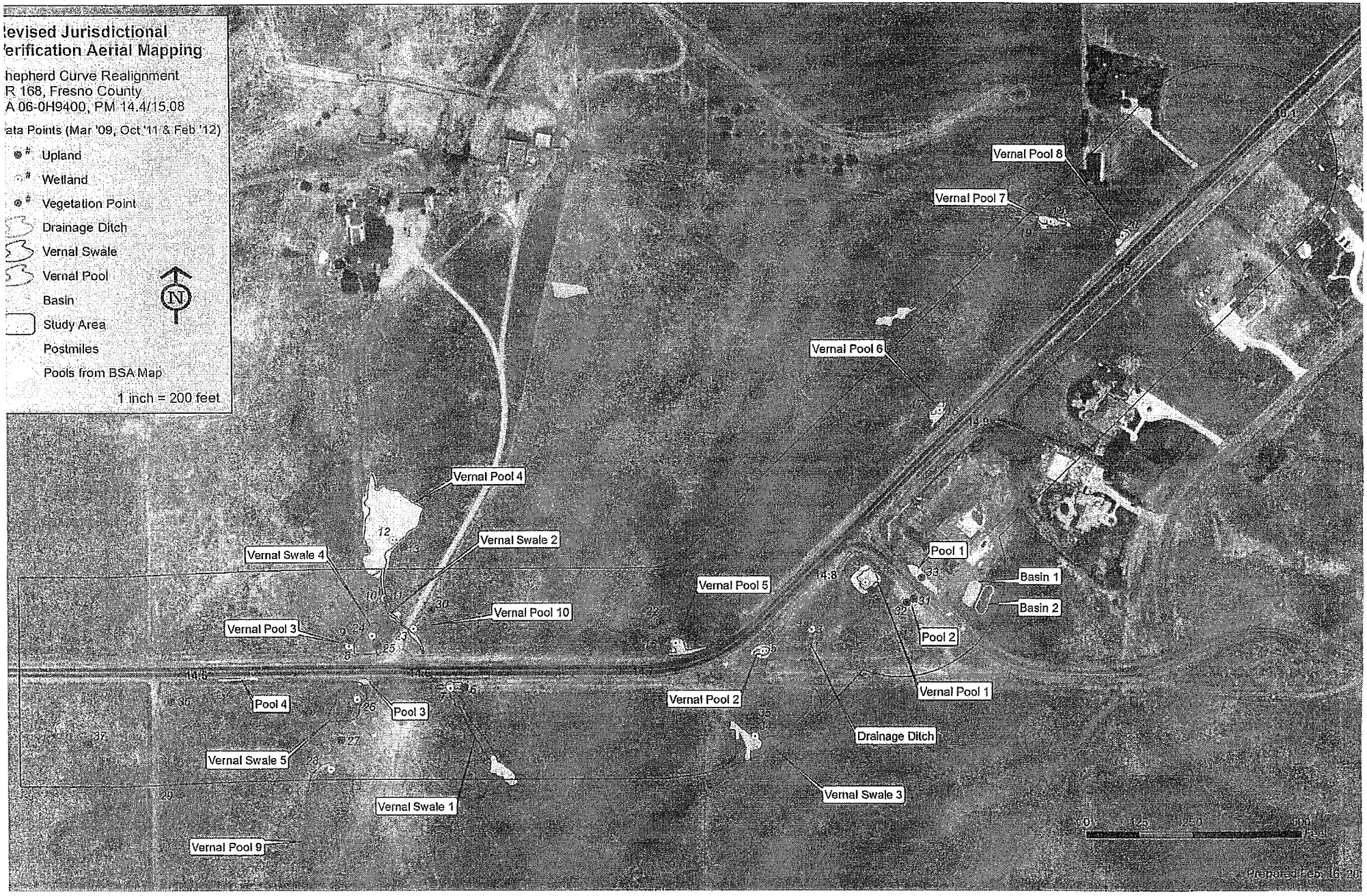
U.S. Army Corps of Engineers
Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814-2922
DLL-CESPK-RD-Compliance@usace.army.mil

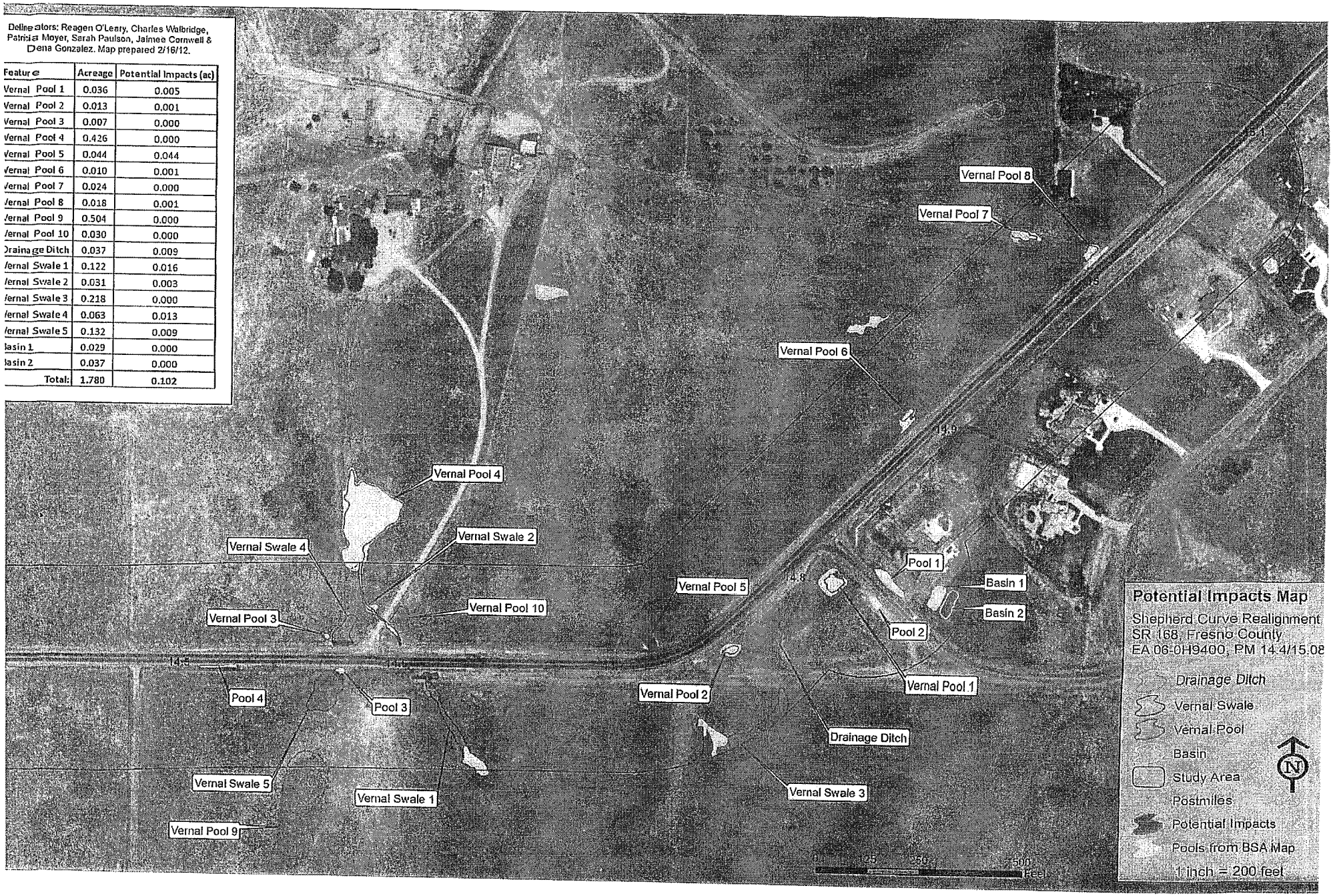
Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____
Signature of Permittee Date


evised Jurisdictional
erification Aerial Mapping
hepherd Curve Realignment
R 168, Fresno County
A 06-0H9400, PM 14.4/15.08
ata Points (Mar '09, Oct '11 & Feb '12)
Upland
Wetland
Vegetation Point
Drainage Ditch
Vernal Swale
Vernal Pool
Basin
Study Area
Postmiles
Pools from BSA Map
1 inch = 200 feet
N
Vernal Pool 8
Vernal Pool 7
Vernal Pool 6
Vernal Pool 4
Vernal Swale 2
Vernal Swale 4
Vernal Pool 5
Pool 1
Basin 1
Basin 2
Vernal Pool 10
Vernal Pool 3
Pool 2
Vernal Pool 1
Pool 4
Pool 3
Vernal Pool 2
Drainage Ditch
Vernal Swale 5
Vernal Swale 1
Vernal Swale 3
Vernal Pool 9
0
125
250
Prepared Feb. 16, 20


Delineators: Reagen O'Leary, Charles Walbridge, Patricia Moyer, Sarah Paulson, Jaimee Cornwell & Dena Gonzalez. Map prepared 2/16/12.
Feature | Acreage | Potential Impacts (ac)
Vernal Pool 1 | 0.036 | 0.005
Vernal Pool 2 | 0.013 | 0.001
Vernal Pool 3 | 0.007 | 0.000
Vernal Pool 4 | 0.426 | 0.000
Vernal Pool 5 | 0.044 | 0.044
Vernal Pool 6 | 0.010 | 0.001
Vernal Pool 7 | 0.024 | 0.000
Vernal Pool 8 | 0.018 | 0.001
Vernal Pool 9 | 0.504 | 0.000
Vernal Pool 10 | 0.030 | 0.000
Drainage Ditch | 0.037 | 0.009
Vernal Swale 1 | 0.122 | 0.016
Vernal Swale 2 | 0.031 | 0.003
Vernal Swale 3 | 0.218 | 0.000
Vernal Swale 4 | 0.063 | 0.013
Vernal Swale 5 | 0.132 | 0.009
Basin 1 | 0.029 | 0.000
Basin 2 | 0.037 | 0.000
Total: | 1.780 | 0.102
Vernal Pool 8
Vernal Pool 7
Vernal Pool 6
Vernal Pool 4
Vernal Swale 4
Vernal Swale 2
Vernal Pool 3
Vernal Pool 10
Vernal Pool 5
Pool 1
Basin 1
Basin 2
Pool 2
Vernal Pool 1
Pool 4
Pool 3
Vernal Pool 2
Drainage Ditch
Vernal Swale 5
Vernal Swale 1
Vernal Swale 3
Vernal Pool 9
14.5
14.6
14.8
15.0
15.1
0
125
250
500
Feet
Potential Impacts Map
Shepherd Curve Realignment
SR 168, Fresno County
EA 06-0H9400, PM 14.4/15.08
Drainage Ditch
Vernal Swale
Vernal Pool
Basin
Study Area
Postmiles
Potential Impacts
Pools from BSA Map
1 inch = 200 feet
N

INDEX OF PLANS

STATE OF CALIFORNIA

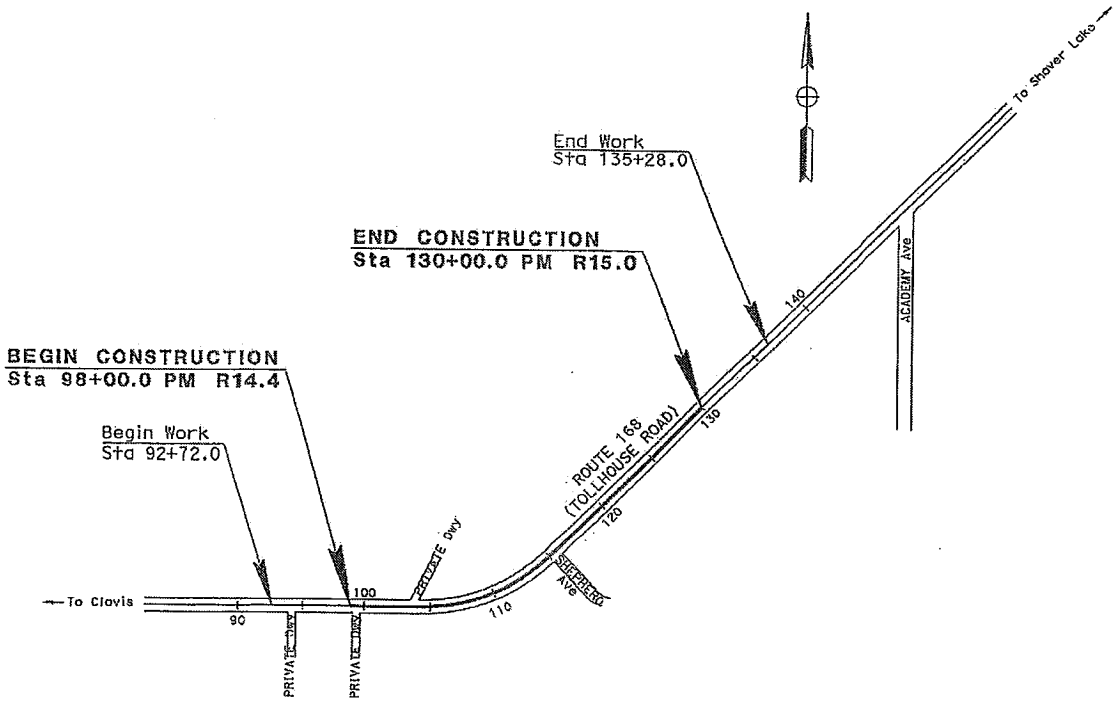
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN FRESNO COUNTY
NEAR CLOVIS, FROM 0.4 MILE WEST OF SHEPHERD AVENUE TO 0.3 MILE EAST OF SHEPHERD AVENUE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	168	R14.4/R15.0		



NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER — DATE 11-15-11

RODRIGO M. CRUZ No. 57918 Exp. 06/30/12 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

100% PS&E
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

DESIGN ENGINEER	PROJECT MANAGER
JUN XU	SUZIE HOLDRIDGE

CONTRACT No.	06-0H9404
PROJECT ID	0600000150

DATE PLOTTED => 16-NOV-2011
TIME PLOTTED => 05:29
LAST REVISION 11-14-11

BORDER LAST REVISED 7/2/2010 | CALTRANS WEB SITE IS: HTTP://WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s122935 DGN FILE => 0600000150sc001.dgn | UNIT 1463 | PROJECT NUMBER & PHASE 0600000150I

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	168	R14.4/R15.4		

REGISTERED CIVIL ENGINEER — DATE 11-15-11

PLANS APPROVAL DATE

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RODRIGO M. CRUZ — No. 57918 — 6/30/12 — CIVIL — STATE OF CALIFORNIA

NOTES:

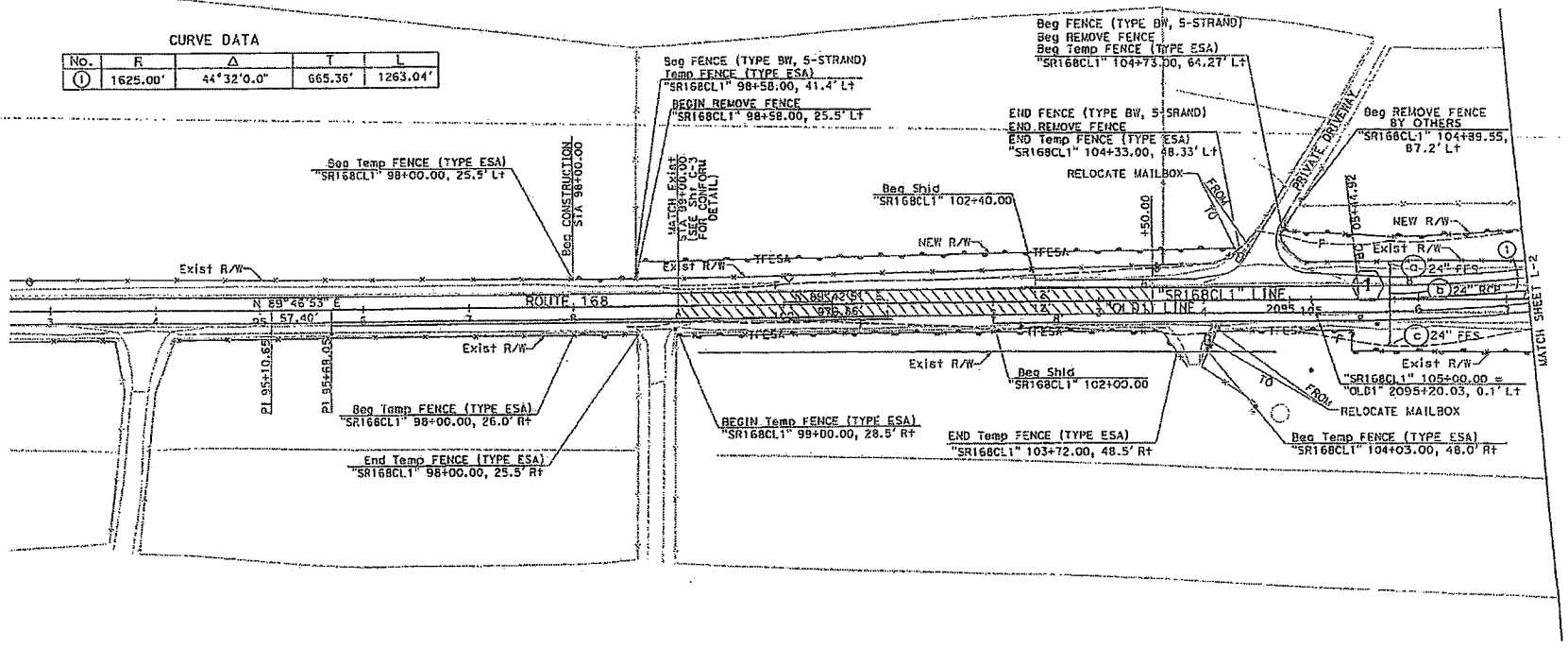
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. SEE X-SECTION SHEETS FOR LOCATIONS OF FULL ROADWAY RECONSTRUCTION OF Exist PAVEMENT.
3. SEE ELECTRICAL PLANS FOR EXISTING CALTRANS-OWNED UTILITIES TO BE REMOVED.
4. FOR TYPICAL CONFORM, SEE CONSTRUCTION DETAILS Sht C-3.
5. FENCE TO BE REMOVED BY OTHERS SHALL BE REMOVED PRIOR TO START OF CONSTRUCTION.
6. REFER TO Sht X-5 FOR THE LOCATION OF THE Pvmnt REMOVAL AND EXCAVATION OF PORTION OF THE Exist Rte 168.
7. FOR RUMBLE STRIP DETAILS AND LOCATIONS, SEE CONSTRUCTION DETAIL Sht C-4 AND SUMMARY OF QUANTITIES Sht 0-2.

LEGEND:

- REPLACE AC AND BASE
- REMOVE AC AND BASE
- REMOVE AC AND BASE AND EXCAVATE
- TFESA — Temp FENCE (TYPE ESA)
- DRAINAGE SYSTEM No.
- DRAINAGE UNIT
- GUTTER FLOW LINES

CURVE DATA

No.	R	Δ	T	L
①	1625.00'	44°32'0.0"	665.36'	1263.04'



LAYOUT

SCALE: 1"=50'

L-1

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION — DESIGN

FUNCTIONAL SUPERVISOR: JUN XU

CALCULATED-DESIGNED BY: IRENE LEE

CHECKED BY: RODRIGO CRUZ

REVISED BY | DATE REVISED

LAST REVISED DATE PLOTTED => 15-NOV-2011
TIME PLOTTED => 14:21

USERNAME => 0122938

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 0600000150I

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No.	R	Δ	T	L
1	1625.00'	44°32'0.0"	665.36'	1263.04'
2	1641.82'	8°49'51.7"	126.78'	253.05'
3	1649.81'	8°49'51.8"	127.40'	254.29'
4	1649.01'	1°45'46.7"	25.37'	50.74'
5	1657.00'	1°45'46.7"	25.49'	50.99'
6	75.00'	60°35'19.0"	43.82'	79.31'
7	67.00'	60°35'19.0"	39.14'	70.85'
8	50.00'	53°6'2.0"	24.99'	46.34'
9	42.00'	53°8'37.7"	21.01'	38.96'
10	299.11'	43°57'9.5"	120.71'	229.46'
11	393.99'	27°33'32.3"	96.62'	189.51'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	168	R14.4/R15.0		

REGISTERED CIVIL ENGINEER — DATE 11-15-11

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RODRIGO M. CRUZ — No. 57918 — Exp. 06/30/12 — CIVIL — STATE OF CALIFORNIA

REVISED BY: IRENE LEE
DATE REVISED:
CALCULATED-DESIGNED BY: RODRIGO CRUZ
CHECKED BY:
FUNCTIONAL SUPERVISOR: JUN XU
DEPARTMENT OF TRANSPORTATION — DESIGN
STATE OF CALIFORNIA

LAYOUT

SCALE: 1"=50'

L-2

DATE PLOTTED => 16-NOV-2011
TIME PLOTTED => 08:32

BORDER LAST REVISED 7/2/2010 | USERNAME => s122335 | DGN FILE => 06000001501a002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1463 | PROJECT NUMBER & PHASE 06000001501

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

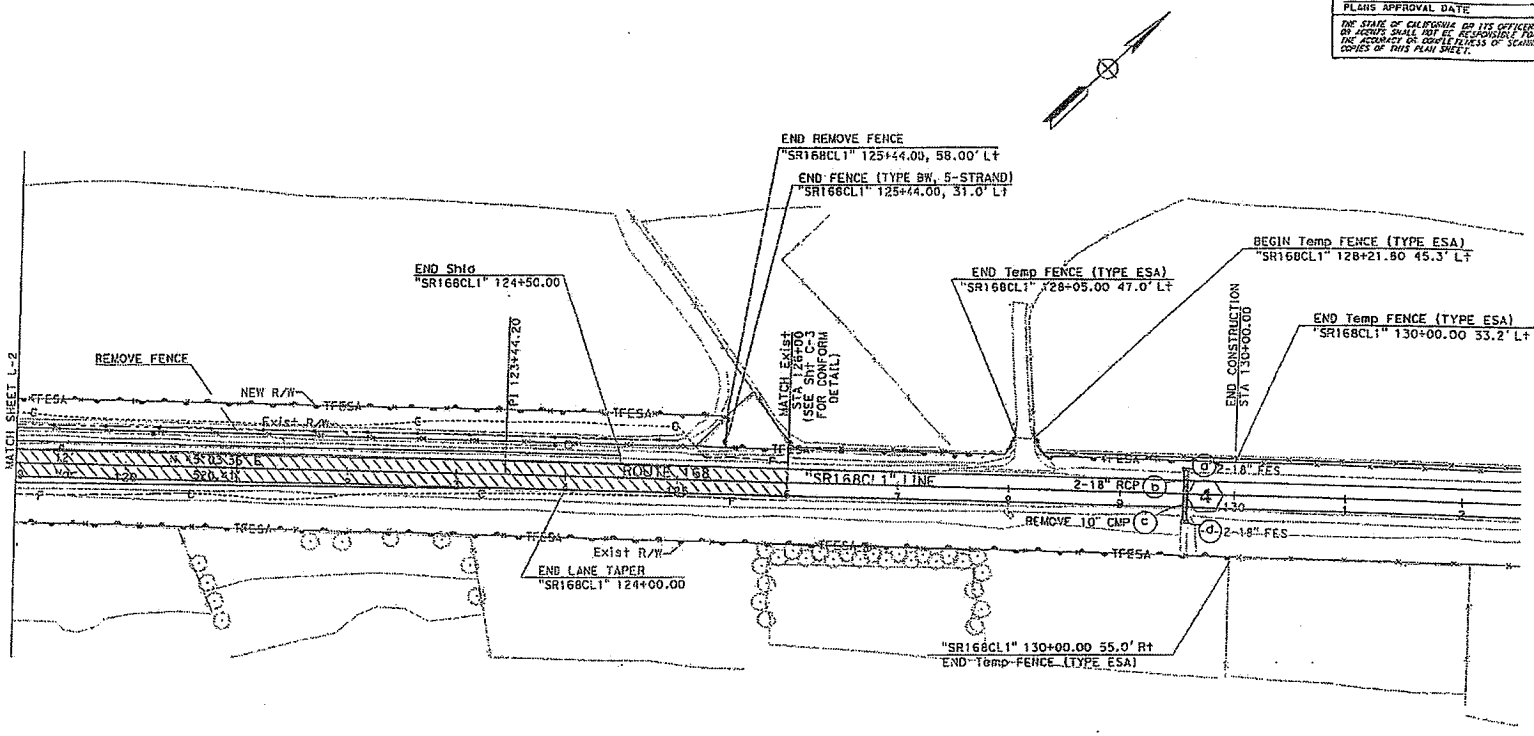
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	168	R14.4/R15.0		

REGISTERED CIVIL ENGINEER — 11-15-11 DATE

RODRIGO M. CRUZ No. 57916 Exp. 06/30/12 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT

SCALE: 1"=50'

L-3

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION — DESIGN

FUNCTIONAL SUPERVISOR: JUN XU

CALCULATED/DESIGNED BY: IRENE LEE

CHECKED BY: RODRIGO CRUZ

REVISED BY | DATE REVISED

DATE PLOTTED => 15-NOV-2011
TIME PLOTTED => 13:08

FORMAT LAST REVISED 7/2/2010

USERNAME => s128832

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 0600000150I